SUPREME COURT OF THE UNITED STATES.

No. 243.

WILLIAM N. WHITELEY, APPELLANT,

VS.

WILLIAM SWAYNE.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF OHIO.

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1 TUESDAY, *October 15th*, 1861.

At a circuit court of the United States within and for the seventh circuit and southern district of Ohio, begun and held at the city of *city of* Cincinnati, on the third Tuesday, being the fifteenth day of October, in the year of our Lord one thousand eight hundred and sixty-one, and in the eighty-sixth year of the independence of the United States of America, before the Honorable Humphrey H. Leavitt, judge of said court, the following proceedings were had, to wit:

WM. N. WHITELY
vs.
WM. SWAYNE. } In chancery.

Be it remembered that heretofore, to wit, on the 8th day of November, in the year of our Lord one thousand eight hundred and sixty-one, came the complainant, Wm. N. Whitely, by his counsel, and filed his certain bill of complaint herein against Wm. Swayne, which is in the words and figures following, to wit:

Bill.

To the honorable judges of the circuit court of the United States for the 7th circuit and southern district of Ohio, in chancery, sitting:

Wm. N. Whitely, a citizen of Ohio, brings this his bill against Wm. Swayne, a citizen of the State of Ohio.

And thereupon your orator complains and says, that previous to August 20th, 1850, one John Locke Hardeman, a citizen of
2 the United States was the original and first inventor of a new and useful improvement in machines for cutting hemp, millet, and other grain, for which, he having in all things complied with the laws of the United States and the rules of the patent office thereof, a patent had been, by said government, issued to said John Locke Hardeman, dated August 20th, 1850, in due form of law, and the said invention so patented to said Hardeman, and his patent therefor having been, in due form of law, wholly assigned to your orator, and the description and specification of said patented invention being defective and insufficient, previous to June 18th, 1861, said patent was, by your orator, returned and surrendered to the Commissioners of Patents of the United States for amendment and reissue; and thereupon such proceedings were had, in conformity to the laws of the United States and the rules of the Patent Office, that on the 18th day of June, 1861, three several new letters patent, numbered respectively 95, 96, and 97 were issued to your orator for distinct and separate parts of the aforesaid patented invention of John Locke Hardeman, each dated June 18th, 1861, each signed by the Secretary of the Interior of the United States, sealed with the seal of the Patent Office, and countersigned by the Commissioner of Patents, all in due form of law, and all for distinct and separate parts of the same invention or inventions previously patented by said government to

said John Locke Hardeman, by said original patent of August 20th,
1850, all of which are of record in the aforesaid Patent Office;
3 and the aforesaid reissued letters patent, numbered 96 and
97, with the specifications and drawings belonging thereto are hereto appended and made part of this bill by copies, marked "A and B," whereby was granted and secured to your orator, Wm. N. Whitely, his heirs, administrators, or assigns, the exclusive right and liberty to make, construct, use, and vend to others to be used, the inventions described in said reissued letters patent for the unexpired period of said original patent, granted to said John Locke Hardeman, as aforesaid.

And your orator further shows, that previous to the 23d day of May, 1854, one Thomas S. Steadman, a citizen of the United States, was the original and first inventor of a new and useful improvement in clover and grass-seed harvesters, for which, he having in all things complied with the laws of the United States and the rules of the Patent Office thereof, a patent was, for said invention by said government, issued to said Steadman, dated may 23d, 1854, in due form of law, and the said invention, so patented to said Steadman, and his said patent therefor, having been in due form of law wholly assigned to your orator, and the description and specification of said patented invention being defective and insufficient, previous to June 19th, 1860, said patent was, by your orator, returned and surrendered to the Commissioners of Patents of the United States for amendment and reissue, and thereupon such proceedings were had, in conformity to the laws of the United States and the rules of its Patent Office; that on the 19th day of June, 1860,
4 three several new letters patent, numbered respectively 985,
986, and 987, were issued to your orator for distinct and separate parts of the aforesaid patented invention of said Thomas S. Steadman, each dated June 19th, 1860, each signed by the Secretary of the Interior of the United States, sealed with the seal of its Patent Office, and countersigned by the Commissioners of Patents of the United States, all in due form of law, and all for distinct and separate parts of the same invention or inventions previously patented by said government to said Thomas S. Steadman by said original patent of May 23d, 1854; all of which are of record in the aforesaid Patent Office. The said reissued letters patent, numbers 985 and 986, with the specifications and drawings belonging thereto, are hereto appended and made part of this bill by copies, marked "C and D," whereby was granted and secured to your orator, Wm. N. Whitely, his heirs, administrators, or assigns, the full and exclusive right and liberty to make, construct, use, and vend to others to be used, the inventions described in said three reissued letters patent for the unexpired period of said original patent, granted to said Thomas S. Steadman, as aforesaid.

And your orator further shows, that a full description of each of the aforesaid patented inventions is contained in each of the aforesaid reissued patents which are made part of this bill, and the schedule or specification thereto annexed, and herewith submitted, as aforesaid.

And your orator further shows that but for the infringement hereinafter complained of, orator still would be in the undisturbed
5 possession, use, and enjoyment of the exclusive privileges granted to him by all the aforesaid reissued letters patent.

And your orator further shows that said William Swayne, well knowing all the facts herein set forth, without the consent, leave, or license of orator, and against his will, has used and vended to others to be used each of the improvements and inventions described in each of the four aforesaid reissued patents made part of the bill; and is still continuing to use and vend to others to be used the same in the southern district of Ohio, since the issue of each of the aforesaid reissued patents, in violation and infringement of the exclusive rights granted to orator by each of the aforesaid four reissued patents. The exact number of machines so used, or vended to others to be used by said William Swayne, embodying either of said patented improvements, orator does not know; but he avers that said William Swayne has used, and vended to others to be used, large numbers of reaping and mowing machines, and combined reaping and mowing machines, since the date of each of the aforesaid reissues, containing one, and often all, of said patented inventions, and in violation of each of said patents.

Orator, therefore, prays that William Swayne may be made defendant herein, that process may issue against him, and that he may answer, under oath, all the averments of this bill as fully as if specially interrogated, that he may particularly answer the following interrogations.

6 1st. Did orator obtain the four reissued patents attached to this bill?

2nd. Has defendant used, or vended to others to be used, any reaping or mowing machines since the date of either of the aforesaid reissued patents, constructed in whole or in part upon the principles, or in the manner described in either of said reissued patents?

3rd. How many such machines has defendant used or sold?

4th. Describe fully and accurately the reaping and mowing, or combined reaping and mowing machines used or sold by defendant since the date of either of said reissues, and illustrate either by words, drawings, model, or by actual specimen machine produced in court; the difference between such machines so used or sold by defendant, and the machines described in either of orator's said patents.

And your orator prays that, until the final hearing of this bill and cause, an injunction may be granted him against defendant, restraining him from using or selling reaping and mowing machines, or either of them containing either of the aforesaid inventions so patented to orator, or from doing any act or thing to infringe the aforesaid rights of orator so secured to him by each of said four reissued patents.

And orator prays an account may be taken that it may be ascertained how many machines infringing either of orator's said four reissued patents have been so used or sold by defendant, that

7 on the final hearing of this bill, defendant may be adjudged and decreed to pay over to orator all the profits by him unlawfully derived from the violation of orator's said patents, and the damages thus unlawfully sustained by orator, that defendant may be perpetually injoined and restrained from any further using, or vending to others to be used, machines containing either of orator's said patents; and that orator may have such other and further orders, decrees, and relief herein as equity and the nature of this case may require.

LEE & FISHER,
Sol'rs for Comp't.

I acknowledge myself bail for cost for complainant in this case.
O. S. KELLY.

STATE OF OHIO, *Clarke County, ss:*

William N. Whitely, being duly sworn, make oath and say:

That he is the complainant in the foregoing bill; that he knows the contents thereof, and that such matters therein as are stated of his own knowledge he knows to be true, and such as are stated upon his information he believes to be true in substance and in fact, as set forth. And he further says that he verily believes that the said John Locke Hardeman was the original and first inventor of the improvements described and claimed in reissue Nos. 96 and 97, and that the aforesaid Thomas S. Steadman was the original and first inventor of the improvements described and claimed in
8 reissues Nos. 985 and 986.

Sworn to before me and subscribed in my presence, this day of , 1861.

Subpœna.

Whereupon a subpœna was issued out of the clerk's office of said court, which subpœna is in words and figures following, to wit:

UNITED STATES OF AMERICA,
Southern District of Ohio, ss:

The President of the United States of America to the marshal of the southern district of Ohio, greeting:

You are hereby commanded to summon William Swayne, a citizen of, and resident in, the State of Ohio, if he be found in your district, to be and appear in the circuit court of the United States for the southern district of Ohio aforesaid, at Cincinnati, on the first Monday in December next, to answer a certain bill in chancery, filed and exhibited in said court against him by William N. Whitely, a citizen of, and resident in, the State of Ohio. Hereof he is not to fail under the penalty of the law thence ensuing. And have you then and there this writ.

Witness, the Honorable Roger B. Taney, Chief Justice of the

United States, this 8th day of November, A. D. 1861, and in the 86th year of the independence of the United States of America.

Attest:

JOHN McLEAN, *Clerk*.

Memorandum.

The said defendant is required to enter his appearance in this suit in the clerk's office of said court, on or before the first Monday of December, 1861, otherwise the said bill may be taken pro confesso.

JOHN McLEAN, *Clerk*.

9 On which said writ was the following endorsement, to wit:

O. S. Kelley acknowledges himself security for all costs for which the plaintiff may be liable in this suit. See bill.

And afterwards, to wit, on the first Monday in December, in the year last aforesaid, came the marshal of this district, and returned this writ, with his proceedings endorsed thereon in the words and figures following, to wit:

Received this summons Nov. 20th, 1861. Served it next day, Nov. 21st, by delivering a certified copy to the within-named defendant, A. C. Sands, U. S. marshal, by M. B. Upton, D. U. S. marshal.

And afterwards, to wit, on the 6th day of January, in the year of our Lord one thousand eight hundred and sixty-two, came the defendant, by his counsel, and filed his certain answer herein, which is in the words and figures following, to wit:

Answer.

Circuit court U. S., 7th circuit, and southern dist. of Ohio, in equity.

WILLIAM N. WHITELEY
vs.
WILLIAM SWAYNE.

The answer of the defendant, William Swayne, to the bill of complaint of William N. Whiteley, complainant:

This defendant now, and at all times hereafter, saving and reserving to himself all benefit and advantage of exception which can or may be had or taken to the many errors, uncertainties, and other imperfections in the said complainant's bill of complaint, contained for answer thereto, or unto so much and such parts thereof as this defendant is advised, is, or are material or necessary for him to make answer unto this defendant, answering, saith, upon information and belief, that he denies that John Locke Hardeman was the original and first inventor of a new and useful improvement in

10 machines for cutting hemp, millet, and other grain, although this defendant, upon information and belief, admits that there was issued to the said John Locke Hardeman, on or about the 20th day of August, 1850, from the United States a patent for, and improvement in, machines for cutting hemp.

And this defendant further answering upon information and belief, further denies that the description and specification of said patented invention was defective or insufficient; but this defendant, upon information and belief, admits that the said complainant did return and surrender said patent to the Commissioner of Patents of the United States for amendment and reissue, and that thereupon such proceedings were had that, on the 18th day of June, 1861, three several new letters parent, numbered respectively 95, 96, and 97, were issued to the complainant; but this defendant never having seen said reissued letters patent, nor any or either of them, and not having any information in regard to the particular improvements claimed to be secured thereby, except that derived from said bill of complaint, leaves the said complainant to make such proofs in regard thereto as he may be advised. And this defendant, upon information and belief, denies that said new letters patent, which are numbered 96 and 97, were, or that either of them was, issued in conformity with the laws of the United States, or that they were for distinct and separate parts, or for any parts of the invention patented by the said John Locke Hardeman, as aforesaid. On the contrary thereof, as this defendant has been informed and believes, and he therefore so charges the facts to be the said patent, which was so as aforesaid granted and

11 issued to him, the said John Locke Hardeman, was granted for, and there was embraced therein and secured to said John Locke Hardeman, thereby all that was claimed by the said Hardeman as his invention or discovery, and all that he desired to have secured to him by said letters patent. And this defendant further answering, upon information and belief, further says, that said letters patent so as aforesaid issued to said Hardeman were not inoperative or invalid by reason of any defective or insufficient description or specification. And that as the defendant has been advised by his counsel, and verily believes, and he therefore so insists, the said complainant was not by any law of the United States, or otherwise, authorized to return or surrender said letters patent to the Commissioner of Patents, nor was said commissioner authorized to accept or receive the same, nor to issue to said complainant the said two several letters patent, numbered respectively 96 and 97, or either of them; wherefore this defendant will insist that he submits to this court that said two several letters patent last above mentioned are, and each of them is, absolutely void and of no force, effect, or validity whatsoever.

And this defendant further answering, upon information and belief, further says and charges that the letters patent which were so as aforesaid issued to the said John Locke Hardeman, did not embrace nor contain, nor did he, the said Hardeman, desire, or wish, or claim that said letters patent should embrace, contain, or secure to him the exclusive use of the inventions or improvements which are

by said complainant claimed to be embraced in and secured by the said reissued letters patent, numbered 96 and 97, nor any nor either of them, nor any part of any or either of such inventions or
12 improvements. And this defendant further answering, upon information and belief, further says and charges, that if he, the said John Locke Hardeman, ever in fact invented any of the improvements claimed by the said complainant to be secured by said reissued letters patent, numbered 96 and 97, he, the said Hardeman, voluntarily abandoned the same to the public long before the said complainant became in anywise intrusted therein, and long before there was any application made by the said John Locke Hardeman or by the said complainant for a patent therefor, or for any or either of said alleged improvements; wherefore, as this defendant is advised by his counsel, and verily believes, and as he therefore insists and submits to this court the said reissued letters patent, numbered 96 and 97, are, and each of them is, void. And this defendant further answering, upon information and belief, further says and charges that the improvements embraced in and claimed by said complainant to be secured by said reissued letters patent, numbered 96 and 97, were, and each of them was in public use for more than two years prior to the application for a patent therefor; wherefore this defendant is advised and believes, and he therefore submits to this court that said last-mentioned reissued letters patent are, and each of them is, void. And this defendant further answering, further says, that he is ignorant whether or not the said John Locke Hardeman ever assigned his said letters patent, or any part thereof, or any interest therein, to him, the said complainant, and he therefore leaves the said complainant to make such proofs in regard thereto as he may be advised. And this defendant further answering, upon infor-
13 mation and belief, denies that one Thomas S. was the original and first inventor of a new and useful improvement in clover and grass seed harvesters, although this defendant admits, upon information and belief, that there was issued to the said Thomas S. Steadman, on or about the 23d day of May, 1854, from the United States, a patent for an improvement in clover harvesters. And this defendant further answering, upon information and belief, further denies that the description of said last above mentioned patented invention was defective or insufficient; but this deponent, upon information and belief, admits that the said complainant did return and surrender said last-mentioned patent to the Commissioner of Patents of the United States for amendment and reissue, and that thereupon such proceedings were had that, on or about the 19th day of June, 1860, three several letters patent, numbered respectively 985, 986, and 987, were issued to the complainant; but this defendant never having seen said reissued letters patent, nor any nor either of them, and not having any information in regard to the particular improvements claimed to be secured thereby, except that derived from said bill of complaint, he leaves the said complainant to make such proofs in regard thereto as he may be advised.

And this defendant, upon information and belief, denies that said

two several last above-mentioned letters patent, and which are numbered 985 and 986, respectively, were, or that either of them was, issued in conformity with the laws of the United States, or that they were for distinct and separate parts of the invention patented by the said Thomas S. Steadman, as aforesaid. On the contrary thereof, this defendant has been informed and believes, and he therefore so charges the facts to be, the said patent which was so, as aforesaid, granted and issued to him, the said Thomas S. Steadman, was granted for, and there was embraced therein and secured to
14 said Steadman thereby, all that was claimed by the said Steadman as his invention or discovery, and all that he desired to have secured to him by said letters patent.

And this defendant, further answering, upon information and belief further says, that said letters patent which were so as aforesaid issued to said Thomes S. Steadman, were not inoperative or invalid by reason of any defective or insufficient description or specification; and that, as this defendant has been advised by his counsel and verily believes, and he therefore so insists, the said complainant was not by any law of the United States, or otherwise, authorized to return or surrender said letters patent to the Commissioner of Patents of the United States, nor was said Commissioner authorized to accept or receive the same, nor to issue to said complainant the said two several letters patent, numbered respectively 985 and 986, nor either of them; wherefore this defendant will insist, and he submits to this court, that said two several last mentioned letters patent are, and each of them is, absolutely void and of no force, effect, or validity whatever.

And this defendant, further answering, upon information and belief further says and charges, that the letters patent, which were so as aforesaid issued to the said Thomas S. Steadman, did not embrace nor contain, nor did he, the said Steadman, desire, or wish, or claim that the same should contain, embrace, or secure to him the exclusive use of the inventions or improvements which are by said complainant claimed to be embraced in and secured by the said two last above-mentioned reissued letters patent, nor either of them, nor any part of them, or of either of such inventions or improvements.

And this defendant, further answering, upon information
15 and belief further says and charges, that if he, the said Thomas S. Steadman, ever in fact invented any of the improvements claimed by the said complainants to be secured by said last above mentioned reissued letters patent, he, the said Steadman, voluntarily abandoned the same to the public use before the said complainant became in anywise interested therein, and long before there was any application made by the said Thomas S. Steadman, or by the complainant, for a patent therefor, or for any or either of said alleged improvements; wherefore, as this defendant is advised by his counsel and verily believes, and he therefore insists and submits to this court, the said reissued letters patent, and which are numbered 985 and 986, are, and each of them is, void.

And this defendant, further answering, upon information and belief, further says and charges, that the improvements embraced in,

and claimed by said complainant to be secured by said two last above mentioned reissued letters patent, were, and each and every of them was, in public use for more than two years prior to the application for a patent therefor; wherefore, this defendant is advised and believes, and he therefore submits to this court, that said two last above mentioned reissued letters patent are, and each of them is, void.

And this defendant, further answering, further says, that he is ignorant whether or not the said Thomas S. Steadman ever assigned his said letters patent, or any part thereof, or any interest therein, to him, the said complainant, and he therefore leaves the said complainant to make such proofs in regard thereto as he may be advised.

And this defendant, further answering, denies that he well knew
or that he at all knew, all the facts set forth in the plaintiff's
16 complaint; and he also denies that he has used, or that he has
vended to others to be used, each or any of the alleged improvements which is claimed by the plaintiff to be described in and secured by any of the four aforesaid reissued letters patent, at any time or times whatever, or that he is still continuing to use, or to vend to others to be used, the same or any part thereof, either in the southern district of Ohio or elsewhere, unless such improvements or inventions are contained or embraced in the machine known as "The Kirby Harvester," which has been sold by this defendant solely as the agent of "the Buffalo Agricultural Machine Works," and in no other capacity whatever; and in regard to that this defendant says that he is ignorant in regard to the particular improvements or inventions claimed by the plaintiff to be embraced in and secured by said reissued letters patent, numbered respectively 96, 97, and 985 and 986, and he therefore cannot state whether or not the machine so known as and called "The Kirby Harvester," which have been sold by him, embrace or contain any or either of such alleged inventions or improvements; that said machines which have been so sold by this defendant, have been and are in public use in the said southern district of Ohio, and have been and are subject, at any and all times, to the examination and inspection of the said plaintiff, his attorneys, or agents, who could, and still can at any time, fully examine the same, and make and take models or drawings thereof, and thereby ascertain whether or not the same contains or embraces any of such alleged inventions or improvements. And this defendant further says, that
he is nor sufficiently familiar with the particular form and
17 construction of the alleged inventions and improvements
which are claimed by the said plaintiff to be embraced in and secured by said four last above-mentioned letters patent, nor with the particular form and construction of the machines so sold by him as to be able to state whether or not the said machines so sold by him in anywise infringed upon said patents, or any or either of them; and he therefore leaves said plaintiff to make such proofs in regard thereto as he may be advised..

This defendant admits that he has sold within the southern district of Ohio ten machines known and called "The Kirby Harvester;" that they were sold at the following dates or times, as nearly as this

defendant can now state the same; that is to say, between the first day of April and the first day of August, 1861, and defendant prays to be hence demurred with his costs.

MASON & BOWMAN,
Solicitors for Def'ts.
DAVID WRIGHT,
Of Counsel.

STATE OF OHIO, *Franklin County, ss:*

William Swayne, being duly affirmed, says that he is the defendant in the foregoing answer named, and that he knows the contents thereof. That the same is true of his own knowledge, except the matters therein stated upon information and belief, and as to those matters he believes it to be true.

WM. SWAYNE.

Subscribed and sworn to before me this 26th day of December, 1861.

JAMES L. BATES,
Presiding Judge of Franklin Com. Pleas.

18 And thereupon came the complainants by their counsel, and filed their replication to the answer of respondents herein, which is in the words and figures following, to wit:

Replication.

Circuit court of the United States for the 7th circuit and southern district of Ohio.

WILLIAM N. WHITELY
vs.
WILLIAM SWAYNE. } No. 1,482.

The replication of William N. Whitely, complainant, to the answer of William Swayne, defendant. This repliant, saving and reserving to himself all and all manner of advantages of exception to the manifold insufficiencies of said answer, for replication thereunto saith, that he will aver and prove his said bill to be true, certain, and sufficient in the law to be answered unto; and that the said answer of the said defendant is uncertain, untrue, evasive, and insufficient to be replied unto by this repliant; without this, that any other matter or thing whatsoever in the said answer contained, material or effectual in the law to be replied unto, confessed and avoided, traversed or denied, is true; all which matters and things this repliant is, and will be, ready to aver and prove, as this honorable court thall direct; and prays as in and by his said bill he hath already prayed.

LEE & FISHER, *Sol'rs for Comp't.*

Journal entry.

And afterwards, to wit, at the February term, in the year last aforesaid, an entry was made upon the journal of said court in the words and figures following, to wit:

On motion to the court it is ordered that defendants have leave to

file their amended answer herein within ten days, and on further motion it is ordered that the rule for additional security for
19 costs herein be discharged, and this cause is continued. And afterwards, to wit, on the 10th day of March, in the year and at the term last aforesaid came the respondents by their counsel, and filed their amended answer herein, which is in the words and figures following, to wit:

Amended answer.

Circuit court of the U. S. for the southern district of Ohio.

WILLIAM SWAYNE
ads.
WILLIAM N. WHITELY.

And now comes the said defendant, and by way of amendment to his original answer heretofore filed says, that the description and specification filed by the plaintiff upon the reissue of the patents mentioned and described in the bill in this cause, do not contain the whole truth relative to the invention or discovery claimed to be secured by the said reissued letters patent, respectively, and that the concealment or addition therein and thereto were made for the purpose of deceiving and defrauding the public. And also that the several patentees in the several original patents mentioned and described in said bill were not the original and first inventors or discoverers of the thing patented by him, or of a substantial and material part thereof claimed as new, nor of the things patented by the reissued letters patent in said bill described, or any, or either of them, or of any substantial part of them, or any, or either of them. Also that the inventions or discoveries which are claimed by said plaintiffs to be secured by said original letters patent; and also those claimed by said reissued letters patent; and each and every of them had been described in letters patent issued by the United States to William and Thomas Schnebely, dated August 22d, 1833, and in letters patent issued by the United States to Jonathan Reed,
20 dated on or about the 12th day of March, 1842, and reissued the 19th day of August, 1856, and contained in a model of said Reed deposited in the Patent Office of the United States prior to March, 1842, and which has ever since been on exhibition there, and in the letters patent, which were issued by the United States to one Enoch Ambler, and dated on or about December 23d, 1834, and in letters patent issued by the United States to one Clinton Foster, and bearing date on or about the 14th of April, 1846. And in letters patent of the United States granted to Nelson Platt, and which bear date on or about the 12th day of June, 1849, and reissued May 23d, 1854, and August 31st, 1858. And in letters patent of the United States granted to Uriah H. Gohle and Alexander Stewart, bearing date on or about the 21st day of November, 1848, and were described in a public work commonly known as the "Brevet de Invention," published in Paris, and particularly in volume XLV of said work, published in Paris in 1842, the description commencing upon page 193

of said volume substantially as follows: "4,960 Brevet de invention de quinze aus au lien testemaire," and ending upon page 199. Also in the figure upon plate 15 of said volume referred to in said description. Also in certain patents issued by the United States of America, among which are the following: One to William Manning for cutting grain, dated May the 3d, 1831; one to Obed Hussey for cutting grain, dated Nov. 31st, 1833; one to Enoch Ambler for cutting grass and grain, dated December 23d, 1834; one to Cyrus H. McCormick for cut-
21 ting grain, dated June 21st, 1834; one Abraham Randall for cutting grain and grass, dated April 22d, 1855; one to Hiram Moore and John Hascall for cutting grain, dated June 28th, 1836; one to Damon A. Church for harvesting machine, dated May 4th, 1841; one to Seth Lamb for mowing machine, dated June 20th, 1840; one to William F. Ketchum for reaping machine, dated July 18th, 1846, and one to William and Thomas Schnebely for cutting grass, dated August 22d, 1833, anterior to the supposed discovery thereof by said patentees respectively. Also that the inventions and discoveries which are claimed by said plaintiff to be secured by said original letters patent, and also by said several reissued letters patent, and each and every of them, or some substantial part thereof, and of each and every of them were known to or used by the following persons at the several places in that respect hereinafter mentioned, that is to say: by William F. Ketchum, now of Buffalo, N. Y., and Elias P. Needham, now of the city of New York; at Buffalo, in the State of New York, and its vicinity, and at Hagerstown, in the State of Maryland; by Obed Hussey, late of the city of Baltimore, but now deceased; by William Schnebley, of and at Hackensack, and vicinity, in New Jersey; and at Steel Tavern, Augusta county, in the State of Virginia; by Cyrus H. McCormick, and by Leander S. McCormick, at and in the vicinity of the same place, and by William S. McCormick, at the same place, all of the city of Chicago, in the State of Illinois; and at the city of New York, and its vicinity, and at Burlington, in the State of Iowa, and its vicinity; by Jonathan
22 Reed, of Alton, Illinois, now deceased; by William T. B. Reed, of Alton, Illinois, and by Henry F. Reed, and by Samuel J. Burr, now, or late, of Brooklyn, N. Y., and at Rockport, New York, and its vicinity; by William H. Seymour, Dayton S. Morgan, and Herman Field, all of Rockport, New York, and Buffalo, New York, and its vicinity; by Francis Pease, supposed to reside at Baltimore, Maryland, and at Pittsfield, Massachusetts, Spencertown, New York, and the city of New York; by Enoch Ambler, supposed to be residing at Root, Montgomery county, New York, Mathew R. Beale, of Spencertown, New York, and George Brown, of Carlisle, Schoharie county, New York, and at Batavia, Illinois, and La Port, Indiana; by Clinton Foster, of St. Francisville, Missouri, and at Cleinare Prairie, Michigan; by Hiram Moore, of Brandon, Fon du Lac county, Wisconsin, George Mason, of said Cleinare Prairie, Lansing Capron, of the same place, Isaac Smith, of Galesburg, Michigan, and Andrew Y. Moore, supposed to be in California, and at Ottowa, and its vicinity, in Illinois; by Henry Greene and Nelson Platt, both of Ottawa, Illi-

nois, and at Urbana, Ohio, by Uriah Goble and Alexander Stewart, both of that place, and by Gideon A. Allen, of Springfield, Ohio, and at Lockport and Menden, and its vicinity, St. Joseph county, Michigan; by Adam Wakeman and Philip Hutchinson, of the latter place, and at Sturges, St. Joseph county, Michigan; by William Hopkins, of Angola, Steuben county, Indiana, and Harvey Hopkins, of English Prairie, La Grange county, Indiana, and by Henry B. Rogers, of Senaca Falls, New York, and its vicinity, and by David
23 Anthony, of Union Springs, Cayuga county, New York, and its vicinity; all which matters and things this defendant is ready to aver, maintain, and prove, as this honorable court shall direct, and humbly prays as in his original answer.

WILLIAM SWAIN,
MASON & BOWMAN,
Def'ts Solicitors.
DAVID WRIGHT,
Of Counsel.

UNITED STATES OF AMERICA, *Southern District of Ohio, ss:*

William Swayne, the above-named defendant, being duly affirmed, says, that the matters and things set forth in the foregoing answer are true, as he verily believes.

Affirmed to before me and subscribed in my presence, this 8th day of March, A. D. 1862.

LAMAR J. FOOS,
Notary Public, Clark Co., Ohio.

Entry.

And afterwards, to wit, on the 30th day of June, in the year last aforesaid, the following entry was made upon the journal of said court: on motion to the court it is ordered that the default for replication herein be, and the same hereby is, set aside, and the plaintiff have leave to file his replication in ten days, and this cause is continued. And afterwards came the complainants, by their counsel, and filed their replication to said amended answer in the words and figures following, to wit:

Replication to amended answer.

Circuit court of the United States, 7th circuit, southern district of Ohio.

WILLIAM N. WHITELY
vs.
WILLIAM SWAYNE. } No. 1,482.

The replication of William N. Whitely, complainant, to the amended answer of William Swayne, defendant. This repliant, saving
24 and reserving to himself all and all manner of advantage of

exception to the manifold insufficiencies of said amended answer, for replication hereunto saith: that he will aver and prove his said bill to be true, certain, and sufficient in the law to be answered unto; and that the said amended answer of the defendant is uncertain, untrue, evasive, and insufficient to be replied unto by this repliant without this, that any other matter or thing whatsoever in the said amended answer contained, material or effectual in the law to be replied unto, confessed and avoided, traversed, or denied, is true; all which matters and things this repliant is, and will be, ready to aver and prove, as this honorable court shall direct, and prays as in and by his said bill be both already prayed.

LEE AND FISHER.
Sol'rs for complainant.

Jour. Entry.

And afterwards, to wit, on the 18th day of July, being at the June term, in the year last aforesaid, an entry was made upon the journal of said court, in the words and figures following, to wit: on motion to the court it is ordered that John C. Miller, of Springfield, Clark county, Ohio, be, and he is hereby, appointed a special examiner in chancery, under the sixty-seventh rule in equity, to take testimony in the foregoing case. And afterwards, to wit, on the 28th day of January, being at the special and adjourned term of January, A. D. 1863, an entry was made on said journal as follows, to wit: on motion to the court it is ordered, that J. Lawrie Blakely, of Cincinnati, Ohio, be, and he is hereby, appointed a special examiner in chancery, under the sixty-seventh rule in equity, to take testimony in the foregoing case. And on the 12th day of February, at chambers, in the
25 year last aforesaid, the following entry was made: on motion, and it appearing that there are objections by the counsel for the defendants in the foregoing cases to the appointment of J. Lawrie Blakely as an examiner in these cases, on the ground that he is the clerk of complainant's solicitors, it is now ordered that said appointment be, and the same is hereby, revoked. And on the 13th day of February, at chambers, in the year last aforesaid, the following entry was made: by a written agreement on file it is ordered by the court that Hudson B. Stevens, of Cincinnati, Ohio, be, and he is hereby, appointed a special examiner in chancery, under the amended 67 rule in equity, to take testimony in the foregoing cases. And afterwards, to wit, on the 14th day of March, A. D. 1863, at chambers, an entry was made upon the journal of said court in the words and figures following, to wit:

WILLIAM N. WHITELY
vs.
WILLIAM SWAYNE. } In equity.

On motion of defendant's solicitors, and by consent of parties, it is ordered that Richard E. Stillwell, esq'r, of New York city, and Horace T. Cook, esq'r, of Auburn, New York, are, and they are hereby

each specially appointed an examiner in the above cause to take testimony under the 67th amended rule of practice adopted for courts of equity by the Supreme Court of the United States. And afterwards, to wit, on the 8th day of June, A. D. 1863, the following entry was made upon the journal of said court, in the words and figures following, to wit:

WILLIAM N. WHITELY
vs.
WILLIAM SWAYNE. } In chancery.

By consent of parties leave is given to the defendant to file an amendment to his amended answer, which is done accordingly. And afterwards, to wit, on the 8th day of June, in the year last aforesaid, came the defendant, by his counsel, and filed his 2nd amended
26 answer herein, which is in the words and figures following, to wit:

2nd amended answer.

Circuit court U. S., 7th circuit, and southern district of Ohio.

WILLIAM N. WHITELY
vs.
WILLIAM SWAYNE.

And now comes the said William Swayne, by leave of the court, for further answer to the bill of complaint of said William N. Whitely, and by way of amendment to his answer, says, that the inventions and improvements described in the reissued letters patent, mentioned and described in the bill of complaint in this action, and each and every of them, or some substantial part thereof, and of each and every of them, were and was known to or used by the following named persons, and at the following named places, before the discovery or invention thereof, by the said Thomas S. Steadman, that is to say: To Frederick Hatch, of the town of Holly, Orleans county, New York, farmer. To Austin Whittlesey, of Medina, Orleans county, New York, mechanic. To William A. Kirby, late of the city of Buffalo, now of the city of Auburn, Cayuga county, New York, inventor. To Byron Densmore, now of the city New York, or vicinity, formerly of the town of Sweden, county of Monroe, New York, inventor. To Frederick P. Root, of the town of Sweden, in the county of Monroe, New York, patentee.

The defendant will also prove in bar of bar of said action, that said improvements and each and every of them, or some substantial part thereof, and of each and every of them, had been described in letters patent, or in the specifications thereto annexed, issued by the United States, to Byron Densmore, for improvements in harvesters, and which bear date on or about the 10th day of February, 1852, and were and was shown in the model deposited by said
27 Densmore in the patent office previous to the issue of said let-

ters patent to him; also in letters patent issued by the United States to Frederick P. Root, for improvements in wheel cultivators, or in the specifications thereto annexed; and which bear date on or about the 8th day of June, 1852; and were and was shown in the model deposited by said Root in the Patent Office previous to the issuing of said letters patent to him. Also in the specifications and drawings annexed to letters patent granted by the government of Great Britain to John Henry Johnson, of 47 Lincoln's Inn Fields, in the county of Middlesex, and of Glasgow. North Britain, gentleman, for the invention of "improvements in reaping machines, and in apparatus connected therewith," which patent was sealed the 5th day of January, 1853, and date the 12th November, 1852, and which specifications, description and drawings were published in London by George E. Eyre, and William Spottiswoode, printers to the Queen's most excellent Majesty, published at the Queen's printing office, East Harding street, near Fleet street, in 1853, a copy whereof was deposited or filed in the Patent Office of the United States, in or about said year, 1853, and has ever since remained and still remains in said office. All which matters and things this defendant is ready to maintain and prove as this honorable court shall direct, and humbly prays as in his original answer.

WM. SWAIN.

THE STATE OF OHIO, *Miami county, ss:*

On this 13th day of May, 1863, personally appeared upon the *the* above-named defendant, William Swayne, who, being duly sworn, deposeth and saith upon information and belief, that the matters and things contained in the foregoing answer are true.

CHARLES N. BARNS,
Notary Public.

28 *Jour. entry.*

And afterwards, to wit, on the 25th day of October, in the year of our Lord one thousand eight hundred and sixty-four, came the defendant by his counsel and filed his replication to the 2d amended answer of complainant herein in the words and figures following, to wit:

Replication to 2nd amended answer.

Circuit court of the United States, seventh circuit, southern district of Ohio.

WILLIAM N. WHITELY
vs.
WILLIAM SWAYNE. } No. 1,482

The replication of William N. Whiteley, complainant, to the second amended answer of William Swayne, defendant. This repliant, saving and reserving to himself all and all manner of advantage of exception to the manifold insufficiencies of said second amended answer

for replication thereunto saith, that he will aver and prove his said bill to be true, certain, and sufficient in the law to be answered unto; and that the said second amended answer of the defendant is uncertain, untrue, evasive and insufficient to be replied unto by this repliant; without this, that any other matter or thing whatsoever in the said second amended answer contained, material or effectual in the law to be replied unto, confessed and avoided, traversed or denied, is true; all which matters and things this repliant is and will be ready to aver and prove as this honorable court shall direct; and prays as in and by his said bill he hath already prayed.

SAMUEL S. FISHER,
Solic'r for Complainant.

Jour. entry.

And afterwards, to wit, on the 6th day of November, A. D. 1863, the following entry was made upon the journal of said court:

WILLIAM N. WHITELY
vs.
WILLIAM SWAYNE. } In chancery.

On motion to the court by Samuel S. Fisher, complain-
29 ant's solicitor, it is ordered that Augustus A. Boyce, esq., of Utica, New York, be appointed a special examiner in the above case, under the 67th amended rule in equity.

Entry.

And afterwards, to wit, on the 16th day of November, in the year of our Lord one thousand eight hundred and sixty-four, at the term last aforesaid, an entry was made on the journal of said court in the words and figures following, to wit:

WILLIAM N. WHITELY
vs.
WILLIAM SWAYNE. } In chancery.

This cause came on to be heard upon the bill, answer and proofs, and was argued by counsel and submitted, and the court take the the same under advisement; and afterwards, to wit, on the 21st day of February, in the year of our Lord one thousand eight hundred and sixty-five, being at the February term of said court in said year, this cause came on for final hearing upon the pleadings and proofs, and was argued by counsel; and upon consideration thereof, the court find the equity of the cause to be with the defendant.

Decree.

It is therefore ordered, adjudged, and decreed, that the bill herein be dismissed at the costs of the complainant.

Notice of appeal.

And it is further ordered, adjudged and decreed that complainant pay the costs herein taxed at $ within ten days, or that in default thereof that execution issue therefor as upon judgments at law, and thereupon the counsel for complainant gives notice of an appeal to the Supreme Court of the United States, and the court fix the amount of the appeal bonds at one thousand dollars.

And afterwards, to wit, on the 24th day of February, at the February term, in the year last aforesaid, an entry was made upon the journal of said court in the words and figures following, to wit:

And now comes the complainant and prays that an appeal may be allowed to the Supreme Court of the United States from the decree of this court dismissing his bill of complaint, and tenders a bond with two sureties in the sum of one thousand dollars.

It is therefore ordered by the court that said appeal be allowed and said bond is approved. Said bond for appeal is in the words and figures following, to wit:

Appeal bond.

Know all men by these presents, that we, William N. Whitely, Jerome Fassler, and Oliver S. Kelly, are held and finally bound unto William Swayne in the penal sum of one thousand dollars, to the payment of which, well and truly to be made, we do by these presents jointly and severally bind ourselves, our heirs, executors, and administrators. Sealed with our seals and dated this 28th day of February, A. D. 1865.

The condition of this obligation is such, that whereas the said William N. Whitely obtained an allowance of an appeal from a certain decree in the circuit court of the United States, seventh circuit and southern district of Ohio, at the February term, 1865, in favor of William Swayne, in a suit in equity brought by William N. Whitely against said William Swayne, wherein a decree was rendered in favor of the said William Swayne against the said William N. Whitely.

Now, if the said William N. Whitely shall pay the condemnation money and costs, in case the said judgment and decree of the said circuit court shall be affirmed by the Supreme Court of the United States, in whole or in part, then the above obligation shall be void; otherwise in full force and virtue in law.

WILLIAM N. WHITELY. [SEAL.]
O. S. KELLY. [SEAL.]
JEROME FASSLER. [SEAL.]

Witness: REUBEN MILLER.
GEO. W. BURNS.

STATE OF OHIO, *Clark county:*

Jerome Fassler and Oliver S. Kelly being sworn, say that they are

worth the sum of two thousand dollars after the payment of their just debts.

Sworn to before me, and subscribed in my presence, this
31 28th day of February, 1865.

REUBEN MILLER,
Justice of the Peace, Clark County, Ohio.

Jour. entry.

And afterwards this cause was continued from term to term, until the October term, A. D. 1866; and on the 24th day of November, at the term and in the year last aforesaid, an entry was made upon the journal of said court, clothed in the words and figures following, to wit:

WILLIAM N. WHITELY
vs.
WILLIAM SWAYNE.

This day came the complainant, by his solicitor, and prayed that an appeal be allowed him from the decree heretofore rendered in this cause to the Supreme Court of the United States, and that security therefor be fixed. Whereupon the court allows such appeal, and orders complainant to give good and sufficient security to prosecute his said appeal to effect, and answer all damages and costs if he fail to make his appeal good, in the sum of one thousand dollars.

And afterwards, to wit, on the 30th day of November, A. D. 1866, came the complainant and filed his said appeal bond, which is in the words and figures following, to wit:

Appeal bond.

Know all men by these presents, that we, William N. Whitely, Jerome Fassler, and Oliver S. Kelly, are held and firmly bound unto William Swayne in the penal sum of one thousand dollars, to the payment of which, well and truly to be made, we do by these presents jointly and severally bind ourselves, our heirs, executors, and administrators. Sealed with our seals and dated this 28th day of November, A. D. 1866.

The condition of this obligation is such that, whereas the said William Whitely obtained an allowance of an appeal from a certain decree in the circuit court of the United States, seventh circuit and southern district of Ohio, at the February term, 1865, in favor of
William Swayne, in a suit in equity brought by William N.
31½ Whitely against said Swayne, wherein a decree was rendered
in favor of the said William Swayne against the said William N. Whitely.

Now, if the said William N. Whitely shall pay the condemnation money and costs, in case the said judgment and decree of the said circuit court shall be affirmed by the Supreme Court of the Uni-

ted States, in whole or in part, then the above obligation shall be void; otherwise in full force and virtue in law.

WILLIAM N. WHITELY. [SEAL.]
JEROME FASSLER. [SEAL.]
OLIVER S. KELLY. [SEAL.]

STATE OF OHIO, *Clark county, ss:*

Jerome Fassler and Oliver S. Kelly, being sworn, say that they are worth the sum of two thousand dollars after the payment of their just debts.

Sworn to and subscribed in my presence, this 28th day of November, 1866.

JEROME FASSLER.
OLIVER S. KELLEY.

THOMAS J. PRINGLE.
Notary Public.

Complainant's testimony.

Circuit court of the United States, southern district of Ohio.

Exhibit No. 1.—Reissue No. 985.

United States of America to all whom these letters patent shall come:

Whereas, W. N. Whitely, jr., of Springfield, Ohio, assignee of Thomas S. Steadman, of Murray, New York, has alleged that said Thomas S. Steadman did invent a new and useful improvement in clover and grass-seed harvesters, (for which letters patent were issued to said Steadman, dated May 23d, 1854, which letters having been surrendered by said assignee, the same have been cancelled, and separate letters ordered to issue to him on three amended specifications,) which he stated had not been known or used before his application, had made oath that he was a citizen of the United States; that he did verily believe that he was the original and first inventor or discoverer of the said improvement, and that the same had not, to the best of his knowledge and belief, been previously known or used; said assignee having paid into the Treasury of the United States the sum of fifteen dollars, and presented a petition to the Com-
32 missioner of Patents, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose. These are, therefore, to grant according to law, to the said W. N. Whitely, jr., his heirs, administrators, or assigns, for the term of fourteen years from the twenty-third day of May, one thousand eight hundred and fifty-four, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given the words of the said W. N. Whitely, jr., in the schedule hereunto annexed, and is made a part of these presents.

In testimony whereof, I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand, at the city of Washington, this nineteenth day of June, in the year of our Lord one thousand eight hundred and sixty, and of the independence of the United States of America the eighty-fourth.

[SEAL.] JACOB THOMPSON,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent office.
PHILIP F. THOMPSON,
Commissioner of Patents.

[Here follows diagram, marked page 32.]

The schedule referred to in these letters patent and making part of the same. To all whom it may concern:

Be it known that Thomas S. Steadman, of Murray, in the county of Orleans, and State of New York, invented certain new and useful improvements in clover and grass-seed harvesters, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, which make part of this specification. This invention relates to that kind of machine in which the height of the cutting apparatus (from the ground) is varied by exchanging the relative positions of the main frame and master-wheel axle or shaft, and consists in
33 connecting the main frame or box of the machine with the master-wheel axle by means of an arm or supplementary frame on which the master-wheel axle is formed or fastened, and which arm is arranged with the main frame or box and its pinion shaft in such a manner that said main frame may be raised and lowered and held at different heights, relatively to the master-wheel axle, and so that the said main frame and supplementary frame shall both vibrate relatively to each other, around a common centre, which is coincident with the axis of the pinion shaft. To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation by referring to letters to the accompanying drawing, which forms port of this specification, and which illustrates a machine embracing my improvement or invention. Figure 1 represents a side elevation of the machine; figure 2 represents a front elevation; figure 3 represents a cross-section at the line x x of figure 1; figure 4 represents a perspective view of the arm or supplementary frame; figure 5 represents a perspective view of the guide plate of the supplementary frame; figure 6 represents, in detailview, the supplementary frame and gear; figure 7 shows a cross-section at y y of figure 4, and figure 8 is a cross-section at the line z z of figure 5. Similar letters represent the same part in the different views. (A) represents the main frame or box of the machine which is furnished near the centre of its rear end with a supporting caster wheel (E,) and near its forward end, the wheels

(B) and (B^2) are placed as shown in the drawing, all of which serves to support the main frame or box (A,) when the forward end of the machine is not running on the ground, and one of which (B) is the master or main driving wheel of the machine; (6) is its axle or shaft; (c) is the pinion shaft; (J) is the arm or supplementary frame on which the master wheel and gears are hung, and which is arranged on the end of the pinion shaft (c.) The wheel (B^2) is hung on a plate (J^2,) similar to arm (J,) and which also moves around the end of the shaft (c.) The arms (J) and (J^2) are guided at their movable ends by guide plates (r) fastened to the sides of the box (A,) and are retained in any desired relative position of the box (A,) by means of levers (c) (c^2;) (K) is the finger bar, and (i) are the fingers, and (x) are the cutters, the bar (r) of which is operated by the cranks (c^2) of the pinion shaft through the medium of the bars (a.) The levers (c) and (c^2) not only hold the frame (A) at any desire delevation relatively to the axle of the side wheels, but also shift the frame in relation to said wheel's axles. (F) is the rake, and (u) the shafts which the team is engaged with the apparatus. The levers (C) and (C^2) are operated by cords (o) (o^2,) which pass over pulleys (H) (H,) on the outer ends of the shafts (h) (h^2,) which shafts are furnished with hand levers (b,) which are checked or chocked by pins (w) in the holes of the plate or disk (P.) Since many of those parts above alluded to, which are in anywise different from the ordinary practice, constitute the subjects of other applications filed simultaneously with this, in which they will be particularly and fully explained, I shall here only describe fully that feature of the machine which constitutes the subject of this application. It will be seen by reference to the drawing, that the arm (J) is formed with a hole (y) at one end to accommodate the shaft (c,) and with a curved guide, flang (f) at the other end to work in the groove formed between the projecting lip (r^2) of the guide plate (r,) and the side of the box (A,) to which the guide plate is fastened, and said arm (J) is furnished with a projecting stud (t,) which constitutes the axle of the master wheel (B,) and with a stud (3^2) for the intermediate gear (M.) which mashes on one side into the main driving gear (D,) and on the opposite side into the pinion (S,) on the end of the shaft (c,) which drives the cutting apparatus. It will be understood that the axis of the gears, except that of pinion (S,) are arranged on a single piece (J,) and that the latter turning only on the pinion shaft (c) may be said to virtually hold itself all the gearing; and it will be readily comprehended that when the centres of the gears exist in one plate or bar, thus the gears will always remain in perfect adjustment with each other, and it will be seen that while this important desideratum is attained by my improved method of construction, the shifting of the main frame relatively to the master-wheel axle may be more readily accomplished than heretofore, and the machine is also rendered more simple than when the bearing and axle or axle alone of the master wheel had to be shifted. The method of changing the relative positions of the main frame and master-wheel axle, and retaining them in any desired position by

means of the levers (c c ,) cords (o o^2,) and shafts (h h^2,) and hand levers constitutes the subject of another application, in which said method will be found fully explained, and need not be reiterated in this application. It will be understood that my invention may be subjected to various modifications of the embodiment illustrated without departing from its spirit. The gear (M) may be taken off of its shaft or stud, when desired, when the machine can run along
36 without driving the cutting apparatus. What is claimed as the invention of the said Thomas S. Steadman, and is desired to be secured by letters patent, is the main frame or box (A,) which carries the pinion which drives the cutters, in combination with the arm or supplementary frame (J,) provided with axle (t) and the main wheel and gearing substantially as described for the purposes specified. I also claim the arm or supplementary frame, in combination with the master wheel and gearing when said arm or supplementary frame is so connected with the main frame as to vibrate from and around the pinion shaft, substantially as shown and described for the purpose set forth.

In testimony whereof, I have hereunto set my hand and affixed my seal, this 27th day of March, A. D. 1860.

WHITELY, JR. [SEAL.]

Witness:
SOL. J. HOUCK.
EMANUEL RIEGEL.

Exhibit No. 2.—*Reissue No.* 986.

The United States of America, to all whom these letters patent shall come:

Whereas W. N. Whitely, jr., of Springfield, Ohio, assignee of Thomas S. Steadman, of Murray, New York, has alleged that said Thomas S. Steadman did invent a new and useful improvement in clover and grass seed harvesters, (for which letters patent were issued to said Steadman, dated May 23d, 1854, which letters patent having been surrendered by said assignee, the same have been cancelled, and separate letters ordered to issue to him on three amended specifications,) which he stated had not been known or used before his application, had made oath that he was a citizen of the United States, that he did verily believe that he was the original and first inventor or discoverer of said improvement, and that the same had not, to the best of his knowledge and belief, been previously known or used, said assignee having paid into the treasury of the United States the sum of thirty dollars, and presented a petition to
37 the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose: These are, therefore to grant, according to law, to the said W. N. Whitely, jr., his heirs, administrators, or assigns, for the term of fourteen years from the twenty-third day of May, one thousand eight hundred and fifty-four, the full and exclusive right and liberty of making, constructing,

using, and vending to others to be used, the said improvement, a a description whereof is given in the words of the said W. N. Whitely, jr., in the schedule hereunto annexed, and is made a part of these presents.

In testimony whereof, I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand at the city of Washington, this nineteenth day of June, in the year of our Lord one thousand eight hundred and sixty, and of the independence of the United States of America the eighty-fourth.

[SEAL.]

JACOB THOMPSON,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office.

PHILIP F. THOMAS,
Commissioner of Patents.

[Here follows diagram marked page 37.]

The schedule referred to in these letters patent and making part of the same.

To all whom it may concern:

Be it known, that Thomas S. Steadman, of Murray, in the county of Orleans, and State of New York, invented certain new and useful improvements in clover and grass harvesters, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, which make part of this specification. This invention relates to that description of machine, in which the main frame, carrying the cutting apparatus and the master wheel, which drives the cutters, are capable of moving up or down, each independently of the other, as the machine moves over the surface of the ground; so that the cutting apparatus may adapt itself to the unevenness of the ground over which the machine travels, while at the same time the master-wheel, the axle of which is not located in the same vertical plane that passes through the line of bearing of the cutting apparatus on the ground, may likewise follow the undulations of the ground's surface. The invention which constitutes the subject of this application, consists in so connecting the main frame or box of the machine, to which the fingers are attached to the arm, or supplementary frame on which the master-wheel axle is formed, or each is allowed to move up and down independently of the other, and the gearing carried by each frame kept constantly in connection during all their movements, as will be hereinafter fully described. To enable those skilled in the art to make and use my invention, I will proceed to describe the method in which I have practiced the same, referring by letters to the accompanying drawing, forming part of this specification, and in which figure 1 represents a side elevation of the machine; figure 2 represents a front elevation; figure 3 represents a cross section at the line X X, of figure 1; figure 4 represents

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perspective view of the arm or supplementary frame; figure 5 represents a perspective view of the guide-plate of the arm or supplementary frame; figure 6 represents in detail views the arm or supplementary frame and gears; figure 7 shows a cross section at y y, figure 4. Figure 8 is a cross section at the line Z Z, of figure 5. Similar letters denote the same parts in the different views. (A) represents the main frame or box of the machine; (B) is a caster-wheel near its centre and rear end, on which the rear end rests, for permitting the machine to turn freely; (C) and (D) are two larger wheels, which serve to support the main frame or box when the guard finger-bar, (E,) which is the front bar of the box, (A,) is not resting on the ground, and one of which (C) is the master or main driving wheel of the machine (e) is its axle formed on, or secured to and near the rear end of the arm or supplementary frame F, whose forward and vibrating end is hung on the projecting end of the pinion shaft a, (which is confined to the main frame or box A by its boxes b and b,) and there held by a flange-plate, (d,) which permits it to be slipped on and off of said shaft when turned on it. The wheel D is hung on an arm or supplementary frame G, similarly constructed, hung and retained as that of F. The arms, the pinion-shaft, and main frame, vibrate from the axles of the wheels C and D, as fixed centres of motion, while they and the main frame vibrate from and around the pinion-shaft on the main frame or box as their centres, while the main frame or box rises toward or lowers from the axles of the ground-wheels C and D. These, and the ends of the arms F and G are held parallel with the main frame A, and guided in moving up and down by the side of the frame or box by guide-plates H and I fastened to the main frame or box, which forms with the frame a groove, in which each arm is held as the main frame raises and lowers, while the fingers thereto attached pass over uneven surfaces. J and J are the levers by which the vibrations of the main frame are limited, and that limit varied, as will be seen by reference to figures 3; e and f are cords by which the levers J and J are operated, which pass over pulleys g and h, on the outer ends of windlass shafts and J, which shafts are furnished with hand levers h and b, which are checked or chocked by pins m and n, placed in such of the holes in the plate or disk (o) as will give the desired limit of vibration to the main frame and finger bar thereto attached, and vary said limit of vibration as shown at figure 1, of the drawings; L is the intermediate wheel, and P is its axle, formed on or secured to the arm or supplementary frame F. This intermediate wheel gears with the master wheel gear M, and the pinion r, for driving the cutters, and also giving them the right motion, and is placed loosely on its shaft *a*, that it may be readily be removed when desired for driving the cutters, as is the case when driving the machine to and from the barn to unload it, &c. E is the guard finger bar of the box A; S are the guard fingers, and t are the cranks on the pinion shaft a, (confined by its boxes b and b^1.) The bars U and U^1, which are hinged at their rear ends to swinging bars v v^1, are pivoted to the upper edges of the frame A T, is the cutter bar attached to the bars

U and U[1]; x are the cutters; Q is the rake; R are the shafts or thills between which the animal that draws the machine is hitched. These are hinged to the front of the main frame or box for permitting it and the master wheel to each have an independent action to the ground. As most of these latter mentioned parts form the subject of application A and C, no particular description of their operation need be here given. It will be observed that the arm or supplementary frame F, on which the master wheel C is formed or secured, is made with a curved portion r, see figures 3, 4, and 6, which is curved on the arc of a circle, the centre of which lies in the centre of the hole w, into which the pinion shaft a fits, and that this curved portion r is formed with a rebate or rabbet W, (see figures 3 and 4,) to accommodate the lip of the retaining strap or plate H, which retaining plate is secured to the side of the main frame or box of the machine (as seen at figures 1 and 3.) It will be readily seen that when
41 the main frame A, and master wheel axle, and of the arm or supplementary frame F, are connected as above described, that they will each maintain a parallel position, relatively to the others, while one rises and the other lowers. The master wheel will of course always follow the surface of the ground unless its depressions are of less curvature than that of the wheel periphery. It will also be seen that the lever when in its position, shown in red, limits the vibration of the main frame A, or box carrying the fingers and cutters, and the arm or supplementary frame F, and when moved to that in black, varies the limit of said vibration. It will be understood that the arm, or supplementary frame G, is in all respects connected with the main frame A, in the same manner as that of F. Thus it will be understood, that I do not wish to limit my claim of invention to the precise manner of constructing the parts such as I have adopted and found to work well. What is claimed as the invention of said Thomas S. Steadman, and is desired to be secured by letters patent, is: in combination with the main frame or box A and arm or supplementary frame F, on which is formed or secured the master wheel axle, the employment of a retaining arc H, or its equivalent, the whole constructed and arranged in such a manner that the main frame or box and arm or supplementary frame with its master wheel axle, will be held in parallel planes relatively to each other, while they are moving up and down, substantially as, and for the purposes herein set forth.

In testimony whereof, I have hereunto set my hand and affixed my seal, this 27th day of March, 1860.

[SEAL.] W. N. WHITELY, JR.

Witnesses:
SOL. J. HOUCK.
EMANUEL RIEGEL.

United States circuit court, southern district of Ohio.

WM. N. WHITELY
vs.
WILLIAM SWAYNE. } In chancery.

UNITED STATES OF AMERICA, *southern district of Ohio, ss:*

Personally appeared before the undersigned authority,
42 Isaiah Miller, who, being sworn, says, that on the 29th day of June, A. D. 1861, he purchased of William Swayne, defendant, the mowing and reaping machine called the Kirby Harvester, now the warehouse of D. Harper & Son, at No. 36 Walnut street, Cincinnati, which machine he has used ever since upon his farm in Miami county, Ohio. The machine was bought at Troy, Ohio, is now marked "A", in black paint, upon the sector plate and retaining arch, and has remained unchanged ever since its purchase. The machine is numbered 3,099, and labelled Buffalo Agricultural Machine Works.

ISAIAH MILLER.

Sworn to and subscribed before me February 13th, 1863.

JOS. H. GEIGER,
Clerk of the Circuit Court, U. S. for the southern district of Ohio.

It is agreed that the machine referred to in the affidavit of Isaiah Miller, is one of the ten machines which defendant, William Swayne, admits in his answer, to have sold, called "the Kirby Harvester," and that the other nine said by said Swayne were of the same kind as this, and this affidavit is to have the same effect as a deposition, in the within cause.

LEE & FISHER,
For WHITELY.
D. WRIGH ,
Of Counsel for efendant.

February 13th, 1863.

Depositions of witnesses taken in the cause pending in the circuit court of the United States, for the 7th circuit, and southern district of Ohio, in chancery, wherein Wm. N. Whitely is complainant and Wm. Swayne is defendant, taken, by consent of counsel, to be read in evidence on the hearing of this cause.

Present, Lee & Fisher, solicitors for complainant, and David Wright, esq., solicitor for defendant, at the clerk's office of said court, on the 13th day of February, 1863, before me, H. B. Stevens, deputy clerk of said court.

J. Boyd Elliott, being first duly sworn as hereinafter certified, deposeth as follows:

Examined by G. M. Lee :

1st. State your age, residence, and occupation.

Answer. My age is thirty-six ; residence, Green county, Ohio, and occupation, practical mechanic and civil engineer.

2d. What connection have you had for years past with patent business? State fully.

43 Answer. From the fall of 1858, during the continuance of the Scientific Artisan, which was about three years. I was the editor of that paper, and the superintendent of the American Patent Company, whose business was the solicitations of patents, giving advice to various parties concerning their improvements, making drawings, specifications, and estimates for machinery in general.

3rd. State your opportunities other than those named above, for becoming acquainted with mowing and reaping, machines and patents therefor.

Answer. I have frequently been called as an expert witness to examine and testify in the United States courts in such cases. I have made examinations frequently of those machines at various fairs, and witnessed their operation in the field.

4th. Have you examined the specifications and drawings of reissues Nos. 985 and 986, granted June 19th, 1860, to Wm. N. Whitely, jr., assignee of Thomas S. Steadman, for improvement in clover and grass seed harvesters? And if yea, state how far the inventions specified in those reissues are described with sufficient accuracy to enable a mechanic to construct the improvements therein set forth.

(Counsel for the defendant objects to the question because no such patents, specifications or drawings are contained in or annexed to the bill.)

Answer. I have examined said reissues and believe that the description therein contained is sufficiently clear and concise to enable any intelligent and skilful workman to construct therefrom said improvement.

5th. Have you seen and examined a mowing and reaping machine now in the warehouse of D. Harper & Son, No. 36 Walnut street, Cincinnati, numbered 3,099, marked Buffalo Agricultural Machine Works on the tool box, and also marked A in black paint upon the sector-plate and retaining arc? And if yea, state whether you find embodied in said machine the improvements described and specified in said reissue No. 985, and if yea, give your reasons for your opinion.

44 (Counsel for the defendant makes the same objection as to the last question.)

Answer. I have examined said machine numbered and so marked, and do find there the combination of a main frame carrying the pinion which drives the cutters, and a supplementary frame provided with an axle, carrying the master wheel of the machine; all so arranged that the master wheel so connected with the main frame can vibrate from and around the pinion shaft as set forth in the aforementioned reissue No. 985. My reasons are that I find devices identical in construction, and capable of performing the same function.

6th, State to what extent you find embodied in said machine No. 3,099 the improvement described and specified in the aforesaid re-

issue No. 986, and give your reasons for any conclusion which you may express.

(Counsel for the defendant makes the same objection as to the last question, and, also, the question assumes an infringement already proved to some extent.)

Answer. I find in said machine a combination with a main frame and arm (or a supplementary frame,) on which is formed or secured a master wheel axle, a retaining arc, all so constructed and arranged that the main frame and supplementary frame with its master wheel will be held in parellel planes relatively to each other, while they are moving up and down, substantially as specified in reissue No. 986. My reasons therefor are that I find such devices as will perform those functions.

7th. Does the axle in said machine 3,099 carry anything besides the master wheel? If so, what?

Answer. I believe it does not.

8th. What do you mean by a master wheel?

Answer. I mean the main driving wheel of the machine.

9th. How does it operate as a driving wheel in that machine?

Answer. Its outer rim resting upon the ground, and having toothed rim upon its arms, which gear into the wheel connected with the cutters, gives motion to them, when it is drawn along the ground, or is itself set in motion.

10th. How far, if at all, does the toothed rim upon the arms of the master wheels correspond to the gearing described in said reissues 985 and 986?

Answer. In principle they are the same.

J. BOYD ELLIOTT.

Counsel for the defence gives notice that he defers the cross-examination of this witness for the present, and until further notice.

I, H. B. Stevens, deputy clerk for the circuit court of the United States aforesaid, do hereby certify that the foregoing deposition of J. Boyd Elliott was taken before me by consent of parties on February 13th, 1863, to be read in evidence in the cause stated in the caption of this deposition; that the said J. Boyd Elliott was by me first duly sworn to testify the truth, the whole truth, and nothing but the truth, in the above-entitled cause; that the deposition was afterwards reduced to writing by me in the presence of said witness, and by him signed in my presence; that I am not of counsel, or otherwise interested in the event of this suit.

H. B. STEVENS.

Depositions of witnesses taken in the cause pending in the circuit court of the United States for the 7th circuit and southern district of Ohio, in chancery, wherein William Whitely is plaintiff, and William Swayne is defendant, taken by consent of counsel to be read in evidence in the hearing of this case.

Present: S. S. Fisher, esq., solicitor for the complainant, and David Wright, esq., counsel for defendant, at the clerk's office of said court, on the 15th and 16th days of October, A. D. 1863, before me.

H. B. STEVENS, *Special Examiner.*

William Clough, a witness produced on behalf of complainant, being first duly sworn, as hereinafter certified deposeth as follows:

Examined by S. S. Fisher, of counsel for complainant:

1st. What is your age, residence, occupation, profession or business?

Answer. My age is 43 years; reside in Cincinnati; my occupation, a consulting machinist and patent solicitor.

2nd. State your opportunities for becoming acquainted with
46 mowing and reaping machines, and the patents therefor.

Answer. I have been consulted and prepared specifications for a number of improvements in harvesting and mowing machines—have been generally familiar with the subject.

3d. State whether or not you have been examined as an expert in the trial of patent causes, in the courts of the United States.

Answer. I have.

4th. Have you examined the specifications and drawings of reissued numbers 985 and 986, granted June 19th, 1860, to William N. Whitely, jr., assignee of Thomas S. Steadman, for improvement in clover and grass seed harvesters? and if yea, whether or not you understand the inventions therein described and specified.

Answer. I have examined the patents, and think I understand the inventions.

5th. Have you seen and examined the models filed in this case marked defendant's model No. 2; defendant's model No. 3; defendant's model No. 4, and defendant's model No. 5, and if yea, state whether or not you understand the operation of the mechanism illustrated by those models.

Answer. I have examined the models specified in the question; think I understand the operation of the mechanism, which they illustrate.

6th. Look at defendant's model No. 3, and state whether or not you find embodied therein the improvements described and specified in reissue, 985, and give your reasons for whatever opinion you may express.

Answer. I do not regard the machine represented by defendant's model No. 3, as corresponding with the invention described in patent No. 985. In the patent No. 985 the invention consists in connecting the main frame of the machine with a master wheel axle by means of a supplementary frame or arm, which frame or arm is pivoted to the pinion shaft carried by the main frame, and vibrates around said pinion shaft as its centre. In defendant's model No. 3 a frame is shown which carries the main driving wheel, but said frame
47 is not pivoted to the pinion shaft, and the particular function afforded by the device described in the patent, is not afforded by the device shown in defendant's model No. 3. In the patent No. 985 the supplementary frame or arm carrying the main driving wheel is constructed to vibrate with a particular reference to a certain pinion on the pinion shaft, to which said arm is pivoted, while in said model the design has no reference to a pinion or pinion shaft relatively to its vibration.

7th. Please to make the same comparison with defendant's model No. 4, and state the result of your examination.

Answer. In the invention No. 985 a connecting arm or frame carrying the main driving wheel, and pivoted to a pinion shaft which is carried by the main frame of the machine is shown. In defendant's model No. 4 no connecting arm corresponding with the arm before described is represented, but the main driving wheel is carried by a curved plate, which is movably applied to and are affixed to the main frame; the mechanical device in the latter invention does not permit the frame of the machine to rise and fall relatively to the main driving wheel, while the machine is in motion, but the adjustment of the frame of the machine relatively to the main driving wheel, must be made when the machine is at rest.

8th. Please make the same comparison with defendant's model No. 5, and state the result of your examination.

Answer. In defendant's model No. 5 no pinion shaft or pinion corresponding mechanically with the pinion shaft and pinion described in patent No. 985 is shown; the device represented in model No. 5 has no reference to driving gearing, but is solely for the purpose of raising and lowering the main frame of the machine relatively to certain carrying wheels corresponding with ordinary carriage-
48 wheels, hence there can be no relation in said device to the invention described in patent No. 985, which has reference to connecting gearing.

9th. Please to make the came comparison with defendant's model, No. 2, and state the result of your examination.

(The counsel for defendant objects to this question, as it is a re-opening of defendant's case.)

Answer. In this model, I find a main driving wheel, carried by a frame or arm which is pivoted to and vibrates upon the pinion shaft supported by the main frame, permitting the frame of the machine to be raised and lowered relatively to the main driving wheel in substantially the same manner as in the patent No. 985, preserving in any position an appropriate connection between the main driving gear wheel, and the pinion to which it communicates motion, as in the patent No. 985.

10th. Look again at defendant's models Nos. 3, 4 and 5, and state whether you find embodied in either of them the invention described and specified in reissue No. 986? and state the reasons for such opinions as you may give.

Answer. In the invention described in patent No. 986, the main driving wheel is carried by an arm or supplementary frame, which is pivoted to and vibrates upon a pinion shaft carried by the main frame in such a manner, that the attitude of the main frame may be changed relatively to the main driving wheel without changing the position of the main gear wheel relatively to the pinion, that is, retaining the main gear wheel in appropriate relation to the pinion; the ascent and descent of the main frame of the machine relatively to the main driving wheel, is controlled by an arc furnished with a lip, which works in a rabbit formed in a curved arc which is attached to the main

frame of the machine; the vibrating arm may be nicely fitted to the pinion shaft upon which it vibrates, and the arc which works in the rabbet above mentioned is of considerable length, the con-
49 struction and arrangement being such that the rising and falling of the main frame of the machine relatively to the main driving wheel, takes place without disturbing the parallelism of the working part. In model No. 3 the main driving wheel is carried by a pivoted frame which permits the main frame of the machine to rise and fall relatively to the driving wheel, but no controlling arc is represented, but in lieu thereof, a standard is shown which controls the movement but in a different manner and without preserving the parallelism of the working parts. In model No. 4 no means of retaining the main frame of the machine, and main driving wheel and gearing, in parallel relation while their relative attitude is being changed, is shown. In reference to model No. 5, I find it difficult to make a comparison between the invention as represented, and the invention described in No. 986. The device in said patent has reference to preserving the parallelism of shafts, gearing and working, parts of a machine, wherein power is communicated from one part to another, and a necessity exists for preserving the working parts in proper position to each other, while in model No. 5, the device has relation, simply to raising and lowering the frame of an implement relatively to certain carrying wheels, and having no other function. In this machine a segment is shown, the arc of which works in a grooved arc, and so far as this corresponds with the arc described in the patent, they are alike, and like many contrivances for a similar purpose. I understand the curved groove in which the segment of this machine works, to be used for the purpose of giving strength to the segment as well as retaining it in a close position to the main frame, the idea of parallelism in working parts is not contemplated. I regard the pinion, together with the spring arm herein shown, as being in the nature of a parol, and not in a strict mechanical sense, a working part.

Adjourned by consent to to-morrow morning, at half-past 9 o'clock.

Thursday, October 15, 1863.

50 FRIDAY MORNING, *October* 16, 1863.

Examination of William Clough, deponent, resumed on the part of the plaintiff:

11th. Please to make the same comparison with defendant's model No. 2, and state the result of your examination.

(Counsel on part of defendant makes same objection to this question as to No. 9.)

Answer. I find the patent No. 986, relates to a description of machine in which the main frame carrying the cutting apparatus and the master wheel which drives the cutters, are capable of moving up or down, each independently of the other, as the machine moves over the surface of the ground, and the invention consists in so connecting the main frame of the machine to an arm or supplementary frame to which the main driving wheel is secured, that while each is

allowed to move up and down independently of the other, the gearing carried by each frame is kept constantly in connection during all their movements. This relation between the two parts of the machine above-specified, is effected and preserved by pivoting the supplementary frame, to a pinion shaft carried by the main frame. The pinion on said shaft receiving its motion from gearing carried by the supplementary frame, the movement of the supplementary frame, which is vibrating on the pinion shaft and changes the relative attitude of the main frame, to that part of the supplementary frame which carries the main driving wheel, is, moreover, controlled by a retaining arc secured to the side of the main frame, which arc receives an arc of corresponding curvature formed upon the vibrating end of a supplementary frame, the effect of this contrivance being to preserve the parallelism of the working parts attached to supplementary frame and main frame, so that the mechanism attached to these different parts operates in harmony in any position which they may be placed. In model No. 2 I find a main driving wheel carried by
51 a supplementary frame which is pivoted to a pinion shaft carried by the main frame of the machine, the supplementary frame vibrating freely upon the said pinion shaft, and the effect being to retain an appropriate connection between the main driving gear wheel carried by said supplementary frame and a pinion upon said pinion shaft carried by the main frame. I also find a retaining arc attached to the main frame of the machine which receives an arc of corresponding curvature formed upon the vibrating end of said supplementary frame retaining the working parts carried by said supplementary frame, in parallel positions relatively to the working parts carried by the main frame; the devices claimed as the invention of the patentee in No. 986, and the purpose thereof, are in my opinion, substantially the same as the devises enumerated in the foregoing answer in defendant's model No. 2.

Witness desires to add to his answer to question No. 10, the following:

In this machine the pinion and shaft corresponding with, or performing a similar function with, the pinion shaft and pinion to which the supplementary frame is related in patent No. 986, is in this machine carried by the vibrating frame, and the parallelism of said pinion and shaft is secured independently of the standard spoken of as used in lieu of the retaining arc described in patent No. 986; the parellelism referred to in my original answer, relates to the connection between the crank shaft and crank carried by the supplementary frame, and the pitman with which the crank wrist is connected, which has its connection with the heel of the cutter bar carried by the main frame.

WM. CLOUGH.

Cross-examined by D. Wright, esq., counsel for defendant:

12th. Did you ever serve an apprenticeship to any mechanical trade or occupation? If yea, with whom, where, how long, and at what trade or mechanical occupation?

Answer. I never served an apprenticeship at any mechanical trade or occupation.

52 13th. How long have you practiced as a consulting machinist, and what do you understand by the term as used by you?

Answer. I have been engaged in the business since 1857; the business consists in furnishing plans, drawings, specifications, and estimates upon mechanical work, sometimes including superintending the construction of the same.

14th. You say, in your direct examination, that you have prepared specifications for a number of improvements in harvesters and mowing-machines. Please state for whom, when, and what particular inventions were intended to be applied for.

Answer. Do not know that I can remember them all; I will mention some. Two improvements by John M. Long, of Hamilton, Ohio. One of these related to the application of pilot wheels to the main frame; the other related to the construction of the crank wrists of harvesters. One invention for Miller and Moore, of Louisville, Ky. The device in this case relates to changing the motion of the cutters, adapting the machine to be used either as a mower or reaper. I prepared two applications for C. B. Garlinghouse, of Allensville, Indiana. One of them related to a new crank wrist, and the other to a device for connecting the pitman to the heel of the cutter bar. I have prepared other cases, but cannot remember now what they were. The above specified cases were all prepared within the last two years.

15th. Have you ever seen a machine illustrated by defendant's model No. 1 in practical operation? or any other machine for a like purpose?

Answer. I have never seen this machine in operation. I have seen many harvesting and mowing machines in operation.

16th. Do you consider the machine illustrated by defendant's model No. 1 a harvesting or mowing machine?

Answer. I think this machine could be used for harvesting of grain, but I do not consider it adapted to cutting grass, requiring to be cut near the ground.

17th. How would you dispose of the cut grain in using this
53 machine as a grain harvester?

Answer. In this machine, as in many harvesters, the cutting apparatus is susceptible of being connected with various attachments for disposing of the harvested grain; the working parts of this machine as represented by the model, are connected with a box which may be of sufficient dimensions to receive and convey the harvested grain, if cut but a short distance below the head, in considerable quantity, and allow it to be discharged at intervals in its course.

18th. Do you mean discharged upon the ground; and if so, by what means, in reference to any description contained in the specifications of either patent, No. 985 or 986?

Answer. I mean discharged on the ground or upon any platform or appropriate receptacle for it, or it may be followed by a cart, into which the harvested grain may be pitched by attendants, the cart in

this case receiving and conveying the harvested grain, like the cart which accompanies certain harvesting machines called headers. With reference to the patents, Nos. 985 and 986, the inventions do not relate to the mode of disposing of the harvested crop, and I do not know that any particular provision for the same is specified therein, except a reference in patent No. 986, to driving the machine to and from the barn to unload it.

19th. Would you consider a harvesting machine thus constructed, thus operating and thus operated, a practicable or useful machine for harvesting grain?

Answer. Not as practicable and useful as a machine which would not only cut but collect and bind the grain and discharge the bundles, but in the absence of any contrivance, better than a sickle, or even cradle. I would think a machine constructed upon a plan represented in this model would be a practicable and useful machine for harvesting grain.

20th. In a machine constructed upon the plan represented in
54 this model, the horses would necessarily travel in the uncut grain, would they not?

Answer. This model is represented to be drawn by one horse, and the track of the horse, although very close to the standing grain, would not, I think, interfere with it; but if it did, the line of draught could be moved slightly out from the front of the machine, and this would involve no change in the plan of its construction.

21st. If a harvesting machine was made as represented by defendant's model No. 1 would not the right-hand wheel thereof necessarily travel upon or through the uncut grain; and if so, what effect would that have upon the working of the machine as a grain harvester?

Answer. The wheel referred to in the question would travel in or through the uncut grain, but would not necessarily impair the working of the machine, unless the wheel should become clogged by the grain, in which case the wheel would merely be obstructed, increasing the draught of the machine.

22nd. What do you understand by the term "frame," when applied to any part of a machine?

Answer. I understand it to refer to a certain fixed part or parts, to which certain movable or working part or parts are applied.

23rd. What do you understand by the term "supplementary," when applied to a machine?

Answer. Something added.

24th. Do you find any supplementary frame in anywise attached to, or upon, the right-hand side of box A, as described in plaintiff's specification?

Answer. I find a plate attached to the side of the machine, which plate is fixed relatively to a wheel working on an axle carried by said plate. I would not call said plate a frame, although relatively to the operation of the wheel which it carries, the term frame would probably be understood if applied to it.

25th. Have you ever seen the letters patent which have been

55 called in this examination, reissues Nos. 985 and 986; and if so, when, for the first time?

Answer. I hold in my hand what I understand to be a copy of said letters patent. I saw them for the first time yesterday.

26th. Do you understand patent No. 985 secures to the patentee the whole of the machine therein described, or any; and if any, what specific part or portion thereof?

(Objected to by complainant's counsel, because it is a question of law for the court.)

Answer. I do not understand that the patentee claims to have invented the whole machine; but I do understand that he claims to have invented a certain arm or frame pivoted to a pinion-shaft, which arm or frame carries the main driving wheel and gearing, the construction, arrangement, and operation being such that the main frame of the machine is permitted to rise and fall relatively to the axis of the main driving wheel, preserving, in all positions or changes of relative attitude, an appropriate connection between the driving gearing carried by the vibrating frame or arm, and a pinion carried by a shaft supported by the main frame of the machine, said pinion working upon the pinion shaft to which the vibrating arm or frame is pivoted; and these devices, claimed to be the invention of the patentee, are apparently allowed in the letters patent No. 985.

27th. Question repeated, and witness is desired to answer the question without any explanation in regard to the connection of any part or portion of said machine with any other part or portion thereof.

(Counsel for complainant insists that the witness has answered the question, and also insists upon the right of the witness to explain as fully as he may desire the nature of the invention set forth in reissue 985.)

Answer. In my first answer I stated in reply to the ques-
56 tion as distinctly as I could, that I did not understand the patentee to claim to have invented the whole machine; I then described that portion of the machine which I understand the patentee to claim as his invention in the patent No. 985.

28th. Please state the separate and different parts of the machine described in the specifications annexed to reissue No. 985, which you understand to have been invented by Steadman, and to be secured to the patentee by that reissue, No. 985, without any description in regard to the connection of any such part or parts with any other parts or portions of said machine.

(Question objected to by complainant's counsel, because it assumes that the invention of Steadman is of a specific part or parts, without reference to their connection with other parts or portions of the machine.)

Answer. I do not understand that any part or parts of machine described in patent No. 985, separately from certain connections and relations to other part or parts, are claimed as the invention of Steadman.

29th. In answer to the 6th interrogatory, you say in defendant's model No. 3, "a frame is shown which carries the main driving-

wheel, but said frame is not pivoted to the pinion-shaft, and the particular function afforded by the device described in the patent, is not afforded by the device shown in defendant's model No. 3;" to what particular function and to what device described in the patent do you thus refer, and to what particular device shown in defendant's model No. 3, do you thus refer?

Answer. The central idea of the inventor's device, as described in patent No. 985, is the changing of the attitude of the main frame of the machine, relatively to the axis of the main driving-wheel, in such manner that the driving gearing carried by a certain vibrating frame or arm is always preserved in proper connection with a pinion carried by a shaft on the main frame. This is the function of the parts specified, and their relation to each other, in patent No. 985,
57 while in defendant's model No. 3 a frame is used which permits the attitude of the main frame of the machine to be changed relatively to the axis of the driving-wheel; but the construction of this machine is such that in this change of attitude no regard is had to the connection of one portion of the gearing of the machine with another, the gearing all being carried by the frame which carries the main driving-wheel. Hencé, there is no function to be performed in this contrivance corresponding with the function of the parts connectedly, as described in patent No. 985.

30th. In your answer to the last question, you use the phrase, "the driving gearing carried by a certain vibrating frame or arm." To what vibrating frame or arm do you allude? and specify all the parts intended by you in that answer to be included in the term "the driving gearing carried by that arm."

Answer. I allude to the frame or arm, designated letter J in the patent 985, and the driving gearing is that gearing which communicates the motion from the main or traction wheel, designated letter B in said specifications, to pinion designated letter S. There is intermediate between the main driving gear-wheel and pinion "S," another gear-wheel, the function of which is to reverse the motion of the pinion. The gearing carried by the arm J, in this case, of course includes the intermediate wheel designated letter "M," although it is not properly driving gearing.

31st. In your answer to question 8th, you say "the device represented in model No. 5 has no reference to the driving gearing, but is solely for the purpose of raising and lowering the main frame of the machine relatively to certain carrying-wheels corresponding with ordinary carriage-wheels." Wherein do you mean to be understood the wheels shown in that model correspond to ordinary carriage wheels? Do you mean in form or function, or both?

Answer. To correspond with ordinary carriage wheels in both form and function; that is, they support the frame-work of an im-
58 plement, and do not communicate mechanical motion to working parts.

32d. Does not the wheel on the right-hand side of defendant's model No. 1 correspond with ordinary carriage wheels, for the same reason and precisely to the same extent? If not, explain the difference.

Answer. It has no other function but that of an ordinary carriage wheel in itself.

33d. In your answer to question 10th, in referring to defendant's model No. 3, you say, "No controlling arc is represented, but in lieu thereof a standard is shown which controls the movement, but in a different manner and without preserving the parallelism of the working parts." Please describe the part or parts of that model which you intend to include under term "a standard."

Answer. I allude to the upright frame of three pieces, a cross-piece being marked figure 3.

34th. Is not one of the functions of that standard, as shown in said model, to preserve the parallelism of the main frame with the supplementary frame as they are varied in height, the one from the other?

Answer. It performs that function with reference to the movements of the two parts in vertical planes, but does not secure the harmonious operation of certain working parts, though the defect which is apparent in this contrivance does not relate to the gearing.

35th. Please name the working parts belonging to this machine, the harmonious operation of which is not secured.

Answer. The plane of the crank-shaft is changed relatively to the main frame, by any change in the relative attitude of the latter to the axis of the driving wheel; this involves a strain upon the pitman, crank, wrist, and the connection of the pitman with the heel of the cutter bar.

36th. How does that affect the parallelism of the working part?

Answer. If the plane of the crank-shaft, the plane of the axis of the wrist, the plane of the axis of the connecting bolt,
59 through the heel of the cutter-bar, by which the pitman is secured thereto, are not parallel, these parts when closely fitted to each other, as they should be, must bind in working.

37th. Please look at the defendant's model No. 3, and state if you find therein a main frame corresponding substantially in form or function with what is called the main frame, or box "A," in plaintiff's reissue No. 986.

Answer. I find a frame which carries working parts similar to the working parts in defendant's reissue No. 986, and in some of its functions corresponding therewith, but in others deficient and differing.

38th. Do you also find in said model a supplementary frame, on which is formed or secured the master-wheel axle?

Answer. I do.

39th. Do you also find in said model the employment of a retaining arc, or its equivalent?

Answer. I do; I find a standard which performs a similar function with reference to the supplementary frame, as is peformed by the retaining arc in plaintiff's patent 986. This refers to the vibration of the supplementary frame, as constructed in defendant's model, relatively to the main frame of defendant's model No. 3; but the construction of this machine does not permit all the advantages of this equivalent which are secured by the retaining arc specified in plaintiff's patent No. 986.

40th. Do you find those parts in said model in combination, to wit, the main frame, supplementary frame, and the retaining arc, or its equivalent?

Answer. I do.

41st. Do you find the whole constructed and arranged in such a manner that the main frame and supplementary frame, with its master-wheel axle, will be held in parallel planes relatively to each other while they are moving up and down?

Answer. The mechanical construction of machine represented by model No. 3, does not permit the preservation of parallelism as perfectly as it is accomplished by the retaining arc described in
60 plaintiff's patent No. 986. Hence I do not regard the parallelism of these parts as being so well secured in said model by defendant; the manner in which the supplementary frame is attached to the main frame, which is a peculiarity in this model, assists in retaining the supplementary frame in parallelism with the main frame.

42d. Question repeated. An answer requested without making any comparsion with any other machine whatever.

Answer. I find the whole, including the main frame, supplementary frame, the connection of the latter with the former, the standard described to be so constructed, connected, and arranged, that the two parts change their attitude relatively to each other in the same vertical planes.

43d. Please look at the defendant's model No. 5; state if you find therein a main frame.

Answer. I do.

44th. Do you also find in said model a supplementary frame on which is formed or secured the master-wheel axle?

Answer. I do.

45th. Do you also find in said model the employment of a retaining arc?

Answer. I do.

46th. Do you find those parts in said model in combination?

Answer. I do.

47th. Do you find them combined and arranged in such a manner that the main frame and supplementary frame, with its master-wheel axle, will be held in parellel planes, relatively to each other while they are moving up and down?

Answer. I do.

WM. CLOUGH.

I, H. B. Stevens, special examiner, do hereby certify that the foregoing deposition of William Clough, was taken before me by consent of the parties, on March 11th and 12th, to be read in evidence in the cause stated in the caption of this deposition; that the said
Wm. Clough was by me first duly sworn to testify the truth,
61 in the above-entitled cause; that the deposition was afterward reduced to writing by me in the presence of said witness, and by him signed in my presence; that I am not of counsel nor otherwise interested in the event of this suit.

H. B. STEVENS.

Deposition of a witness taken before Horace T. Cook, justice of the peace, on the 25th day of April, 1864, at the office of David Wright, esq., Auburn, N. Y., to be read in evidence in a certain suit in chancery pending in the circuit court of the United States, southern district of Ohio, wherein William N. Whitely is complainant, and William Swayne is defendant, on behalf of the complainant.

Present, on behalf of the complainant, S. S. Fisher, esq., and on behalf of the defendant, David Wright, esqs.

J. Boyd Elliott, of lawful age, being first duly cautioned and sworn, deposeth and saith to the interrogatories, prosed as follows:

The complainant offers in evidence a certified copy from the Patent Office, of letters patent, granted to Frederick P. Root, June 8th, 1852, for an improvement in cultivators. It is admitted that the reaper trial was held in Ohio under the State Board of Agriculture, of the State, at Springfield, and the trial of reapers and harvesters held at Geneva, in the State of New York, under the charge of the State Agricultural Society of that State, were held in July, 1852. Defendant produces and reads in evidence a certified copy from the files of the Patent Office, the drawings, file, wrapper, and contents in the matter of the application of T. S. Steadman, filed February 5th, 1853. Rejected, marked defendant's Exhibit No. 7.

Exhibit No. 7.

The U. States Patent Office to all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy from the files of this office, of the drawing, file, wrapper, and contents, in the matter of the application of T. S. Steadman, filed Feb'y 5th, 1853. Rejected.

In testimony whereof, I, D. P. Holloway, Commissioner of
62 Patents, have caused the seal of the Patent Office to be hereunto affixed, this seventh day of November, in the year of our Lord one thousand eight hundred and sixty-three, and of the independence of the United States the eighty-eighth.

D. P. HOLLOWAY.

To the Commissioner of Patents:

The petition of Thomas S. Steadman, of the town of Murray, county of Orleans, and State of New York, respectfully represents that your petitioner has invented new and useful improvements in machines for harvesting clover and grass seed, which he verily believes has not been known or used prior to the invention thereof by your petitioner; he therefore prays that letters patent of the United States may be granted to him therefor, vesting in him and his legal representatives the exclusive right to the same, upon the terms and conditions expressed in the act of Congress, in that case made and provided, he having paid thirty dollars into the treasury, and complied with other provisions of the said act.

T. S. STEADMAN.

[Here follows diagram, marked page 62.]

To all to whom these presents shall come:

Be it known that I, Thomas S. Steadman, of the town of Murray, county of Orleans, and State of New York, have invented new and useful improvements in a machine for harvesting clover and grass seed, and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference be had to the annexed drawings, making part of the specification, in which figure 1 is a perspective view of the machine; fig. 2nd is a vertical longitudinal section through the guard wheel inside of the box; fig. 3rd is a vertical view of the machine with the cutters removed. The same letters indicate like parts in all the figures; the box A, which is five feet wide and twelve long, may be more or less, is placed on three wheels, one on each side, B and C, near the front end of three feet diameter, and one (D, fig. 2) under the centre of the box, near the rear end, which is arranged so as to adjust itself like a caster to the motion of the machine when turning. The side pieces of the box A, are, say sixteen inches high, which have slots through them, up and down through which the axles of the wheels B and C pass, which are held in their places by screw nuts on the inside. The machine is raised and lowered by moving these axles up and down in the slots. To the front end of the bottom of the box is attached teeth or fingers e e e, which are, say, sixteen inches long, extending horizontally in front, and an inch and a half or two inches broad, the space between them being about one-fourth of an inch in width, thus forming a very coarse comb extending the whole width of the front end of the machine; over this comb is placed revolving spiral cutters E E, which are attached at each end, and in the middle to plates or arms forming a circle of about two feet and a half in diameter, which plates or arms have an iron shaft F passing through them, which has its bearing on the side pieces of the box A, directly over the comb. The upper side of the comb teeth are curved downwards, at the roots, some six or eight inches to suit the circle described by the cutters as they revolve; on the end of the shaft F, is placed the pinion G; the cog wheel H is made fast to the hub of the driving wheel B, and revolves with it, which meshes into the intermediate pinion I, which meshes into the pinion G, thus the cutters are made to revolve backwards over the comb. As the machine advances into the clover or grass the stalks pass in between the comb teeth, and are combed off, and every sixteen inches that the machine advances, one of the cutters passes over the comb and cuts whatever is hanging in between the teeth and clears the comb, and the seed is thrown back of the comb into the box just back of the cutters; but it is dropped too near the cutters to be conveniently reached by a hand rake. To obviate this difficulty, the rake K (fig. 3) is used, which is attached at each
64 end to the rods L L, the other end of these rods are attached to arms extending down ten or twelve inches on the rock

shaft M, which is placed transversely across the rear end of the box A. This rock shaft has the end on the right side of the machine extending a little outside of the box, and has another arm extending down some ten inches, to which is attached the rod N; the other end of which is attached to the wrist on the wheel O, which is made to revolve by means of a belt that works over it and over a small pulley P on the end of the shaft F. By this arrangement the rake is made to move a foot or foot and a half where one head is used; but more heads may be used, and the seed carried back any distance desired. When the rake is drawn back it rests on the bottom of the box, or on the seed, as the case may be. When it is pushed forward it is raised up by means of the pins *i i* in the rods E E, which slide up on the upper side of the flies q q. When the rake comes up to the cutters these pins drop off the flies, and the rake drops down on to the bottom of the box, and the pins *i i* pass back under the flies, which are raised up while the pins are passing, and then drop down in a position that the pins slide over them in their forward movement. Thus the cut seed is thrown back clear from the cutters, and is raked from thence by a hand rake back into the rear end of the box. When the box is filled the cutters are thrown out of gear by sliding the intermediate pinion I out on its axis, and the machine is driven to the place of deposit and emptied.

To keep the pinion G and I and the wheel H in mesh, and in their proper relative position, the bar R is used, which is of cast iron, with the axles of the wheel B, and the pinion I cast on it, and a hole made through the front end, through which the shaft F passes. Thus, as the wheel B is raised and lowered in the slot, in the side of the box A, the gearing is kept in place. The machine is drawn by one horse, which is attached to the shaft S. What I claim as my invention and desire to secure by letters patent is: First. The combination of the comb and cutters, arranged and operated as herein described. Second. The bar R for the purpose described. Third. The combination of the rake K, rods L L, rock shaft M, rod N, and flies q q, arranged and operated, and for the purposes described.

T. S. STEADMAN.

Witnesses: BYRON DENTMORE.

STATE OF NEW YORK, *County of Orleans, ss:*

On this, 26th day of January, 1853, before the subscriber, a justice of the peace, personally appeared the within named Thomas S. Steadman, and made solemn oath that he verily believes himself to be the original and first inventor of the improvements herein described for harvesting clover and grass seed, and that he does not know or believe the same was ever before known or used, and that he is a citizen of the United States.

T. S. STEADMAN.

Subscribed and sworn to before this 26th day of January, 1853.

E. WILCOX,

Justice of the Peace of said County of Orleans.

Filed 23 Jan'y, '54.

HOLLEY, N. Y., *Jan.* 19, 1854.

To the Commissioner of Patents:

SIR: I filed in your office, about one year since, an application for a patent for improvements in clover and grass-seed harvesters, which case has been up for examination. You will please return to me those papers, as I wish to examine and amend them. Please send me a copy of your instructions to inventors.

Your most obedient servant,

T. S. STEADMAN.

FEBRUARY 2ND, 1854.

Agreeably to your request of the 19 ult. you will find enclosed your rejected application for letters patent for a clover harvester, and a guide in patent case.

——— ———.

T. S. Steadman, esq., Holley, Orleans co., New York.

66 To the Commissioner of Patents:

SIR: I hereby withdraw my application for a patent for improvements in a machine for harvesting clover and grass seed now in your office, and request that twenty dollars, to which I am entitled by act of Congress, on this withdrawal, be applied on the fee which I am required to pay into the treasury on a new application which I now make for a patent for improvements on the same machine, having so improved said machine as to make it necessary to make a new application. The remaining ten dollars of the fee you will find enclosed herein.

THOMAS S. STEADMAN.

Holley, February 23rd, 1854, N. Y.

Thomas S. Steadman claims: 1. Combination of comb and cutters, arranged and operated as herein set forth. 2nd. Bar R (or plate R) for purposes described; that is, raising and lowering wheel in curved slot. 3. Combination of rake K, rods L L, rock shaft M, rod N, and flies q q, arranged and operated, and for the purposes described. Feb. 5th, '53. No. T. S. Steadman, of Holley county of Orleans, State of New York, clover harvesters. Received Feb'y 5, 1853. Petition, Feb. 5, 1853. Affidavit, Feb. 5, 1853. Specification, Feb. 5, 1853. 2 drawings, Feb. 5, 1853. Model, Feb. 5, 1853. Caveat, May 12, 1852. 1. Cash, $10, Feb'y 5, 1853; examined; cash to new application. 2. Issue, March 6, 1854. 4. Patented, 185 . Recorded, vol. , page . Receipt given to Hon. L. Burrows. File received in dr'f'ts room Feb. 9, 1853. Reported to examiner, April, 1853. Rejected, 14 April, '53. Spec. ret'd, 2 Feb., 1854. Spec. ret'd to office, March 6, '54.

Question 1st, by complainant's counsel. State if you are the same J. B. Elliott who was examined in this case at Cincinnati, February 13th, 1863. If yea, answer, and state where you now reside.

Answer. I am. I now reside at Syracuse, N. Y.

67 2nd, by the same. State if you have examined the specifications and drawings of reissues Nos. 985 and 986, granted June 19th, 1860, to William N. Whitely, assignee of Thomas S. Steadman, for improvements in clover and grass-seed harvesters. If yea, state if you understand the invention therein described and specified.

Answer. I have examined said specifications and drawings of reissues, and believe I understand the improvements therein described and specified.

3d, by the same. Please examine the model now shown you, marked defendant's model, No. 3, and state how far, if at all, you find contained in said model the improvements described and specified in said reissue, No. 985. Please, also, to make the same comparison with defendant's model, No. 4, and defendant's model, No. 5, and state your reasons for any conclusions you arrive at.

Answer. I find in model No. 3 a main frame and a supplementary frame, in which the driving wheel is fastened; but I do not find the pinion, which drives the cutters, attached to the main frame; but said pinion is mounted upon the supplemental frame, and its vibrating point is not at the pinion shaft, but is so arranged as to vibrate without reference to it. I therefore conclude that, inasmuch as said reissue specifies that the supplemental frame shall vibrate from the point at the pinion shaft, and that said pinion shall be mounted upon, or attached to, the main frame, that said model No. 3 does not exhibit the improvement specified in said reissue. In model No. 4 I do not find what, in my opinion, constitutes the supplemental frame, as described and specified in said reissue, but simply a stud, upon which the driving wheel is attached, and which is rigidly fastened to the main frame, and without such an arrangement as to permit its vibration parallel with the main frame, while the machine is in motion. I therefore conclude that it is substantially
68 different from the improvements specified in the said reissue.

So, also, in No. 5, although I find a main frame and a supplemental frame arranged to work parallel with each other, and held in position by a sustaining arc; and yet there is no drive-wheel supported by said supplemental frame, but simply a sustaining or carrying wheel, and an entire absence of gearing either on the drive-wheel or the main frame, thereby leaving out some of the elements specified in said reissue, and consequently making said model substantially different from the improvements therein specified.

4th, by the same. Please compare defendant's model, Nos. 3, 4, and 5, with the improvements described and specified in reissue No. 986, and state whether or not, in your opinion, the improvement specified in said reissue, and those illustrated in the models named, agree in principle and mode of operation.

Answer. Inasmuch as said reissue specified a main frame, and a supplementary frame, carrying the master wheel and a retaining arc to hold its vibrating end parallel to the main frame, and permit it at the same time to vibrate freely in parallel planes with the main frame, and around a point at the pinion-shaft; and inasmuch as I do not find

in model No. 3 a supplemental frame so arranged, but one which vibrates at the opposite end from that specified; and that in model No. 4 I do not find a supplemental frame at all. That in model No. 5 I do not find the drive-wheel. I, therefore, conclude that they are substantially different from the improvement specified in the said reissue.

5th. By the same. Look at the intermediate wheel marked "M," in the drawings attached to the reissue No. 985, and state what its office is in the machine described in said reissue.

Answer. I believe the object of its introduction there is to change the motion of the pinion that drives the cutters from that which
69 it would have were it driven directly from the master wheel; and it does serve to carry the power or motion from the main wheel to the pinion without the necessity of enlarging the drive-wheel, or moving it in as close proximity to the pinion as would be required without it.

6th. By the same. What effect, if any, does it produce in increasing or diminishing the speed of the cutting apparatus?

Answer. It can have no effect, provided the diameter of the drive-wheel and the pinion remains the same, in which case of course they would have to be removed close to each other.

J. BOYD ELLIOTT.

Cross-examination of the witness by D. Wright, esq., counsel for the defendant:

7th. By defendant's counsel. What do you understand by the term "supplemental frame," as used in mechanics?

Answer. It means something added to the main frame, but in such a manner as not to be rigidly fastened to it.

8th. By the same. Look at defendant's model No. 4, and state what you would call that part thereof to which the master-wheel axle is attached when not rigidly attached to the main frame?

Answer. I would term it the base plate of a master-wheel axle, or that portion by which it is bolted or fastened to the main frame.

9th. By the same. Look at defendant's model No. 1, and state what you would call that portion thereof to which the axle of the right-hand wheel is attached.

Answer. I would term it also the supporting plate of the axle, by which said wheel is permitted to vibrate parallel to the main frame of the machine when it is caused to traverse the ground.

10th. By the same. Question 9 repeated, and an answer requested without any regard to the function of that part of said model.

Answer. I would call it the base plate of said axle.

11th. By the same. Then if one be a supplemental frame
70 the other is also, is it not? If not, give your reasons why.

Answer. One being so arranged as to support the wheel, and be attached at only one point to the frame, and yet having movement independent of the frame, and the other being rigidly attached to the frame, so that all its movements are controlled by the frame. I do consider the one a supplemental frame, being partially attached to it, and the other as a portion of the main frame.

12th. By the same. Look at the defendant's model No. 4, and state whether you understand what you call the base plate to be at all times rigidly attached to the main frame.

Answer. It must be when the machine is capable of performing the functions for which it is constructed.

13th. By the same. Question repeated, and a direct answer requested; yes or no.

Answer. No.

14th. By the same. In answer to the third question, in speaking of defendant's model No. 5, you say: "Yet there is no drive-wheel supported by said supplemental frame, but simply a sustaining or carrying wheel." Wherein does a drive-wheel differ from a "sustaining" or "carrying" wheel?

Answer. One serves to communicate motion through suitable gearing to the machinery, and the other simply serves as a supporting roller to overcome the friction, which would otherwise be produced by dragging the body along.

15th. By the same. Look at defendant's model No. 1, and state whether the wheel on the right hand side thereof is a carrying-wheel or drive wheel?

Answer. I would consider it a carrying wheel.

16th. By the same. You say you have examined the specifications and drawings of reissues Nos. 985 and 986. Are the improvements claimed to have been invented by Thomas S. Steadman par-
71 ticularly specified and pointed out in either of these specifications, or is the entire machine fully described therein?

Answer. I believe the improvements specified are fully described therein, though there may be some portions with reference to the construction of the machine not fully set forth.

17th. By the same. Is the whole machine, and every part of it, as illustrated by defendant's model No. 1, fully described in the specifications to both Nos. 985 and 986? If not, what part is omitted?

Answer. I believe they are fully described.

18th. By the same. Are the improvements claimed to have been invented by Thomas S. Steadman particularly specified and pointed out in specifications to No. 985? And if so, in what part or portion of said specifications?

Answer. So much of the improvements as claimed in 985 are therein specified in the description therein given, and the accompanying drawings, which form a part of the inventor's specification, and are specifically pointed out in the claims at the end thereof. The same is also true in regard to reissue No. 986.

19th. By the same. In your answer to the direct interrogatory, had you reference to the wheel on the left hand side of the machine, defendant's model No. 1, and the working parts connected thereto, exclusively?

Answer. Yes.

20th. By the same. In your answer to the fourth question, you say: "Inasmuch as said reissue specified a main frame and a supplementary frame carrying the master-wheel, and a retaining arc to hold its

vibrating end parallel to the main frame, and permit it at the same time to vibrate freely in parallel planes with the main frame and around the point at the pinion shaft." Please examine the claim specified in No. 986, and state whether or not you find any allusion therein to the vibrating of the supplementary frame around the point at
72 the pinion-shaft. If so, state that part of the said claim.

Answer. There is nothing in said claim having such a reference, except the letter "F," referring to a part, which is fully described in other portions of the specifications.

21st. By the same. In answer to question 5, in speaking of the intermediate wheel "M," you say, "it does serve to convey the power or motion from the main wheel to the pinion, without the necessity of enlarging the drive-wheel or moving it in as close proximity to the pinion as would be required without it." Do you find any such function ascribed to that wheel in the specifications No. 985 o No. 986? If so, which?

Answer. From the fact that its position is described in both specifications, I should consider such functions clearly implied.

22d. By the same. Do you consider that an answer to my question?

Answer. If you have reference to such a function being actually specified, I would say this may not be considered a direct answer to your question, inasmuch as such functions are not directly mentionec in either specifications.

23d. By the same. What is the function ascribed to that intermediate wheel in those specifications?

Answer. That of communicating motion from the drive-wheel t the pinion, with the minor function of being easily removed so as to stop the motion of the cutting apparatus, while the machine is taken from place to place; and in reissue 986 additional function is given, as that of giving the cutters the right motion.

24th. By the same. Have you ever seen the machine described in either of these reissues in practical operation?

Answer. I have seen machines presenting the same functions as therein described, with the exception of that portion called the cutters.

25th. By the same. Question repeated.

Answer. I believe I have already sufficiently answered the question.

26th. By the same: Question repeated.

73 Answer. If you mean by your question a harvesting machine, known as Thomas S. Steadman's, I can answer that I have not seen such a one; but so far as the specifications serve to explain a harvesting machine, I have seen many which, in their principal points as therein specified, are very similar.

27th. By the same. Question repeated.

Answer. If I have not already answered it, I would like to have an explanation of what he means.

28th. By the same. Do you not understand the question? And i not, what portion of it do you not understand, in regard to which yo require an explanation?

Answer. I think I do understand the question, and I find a harvesting machine described in these specifications, embodying certain mechanical combinations; and as I have already answered, I repeat again, I have seen many machines in practical operation which embody similar mechanical combinations.

29th. By the same. Do you understand these specifications to be intended to describe a "harvesting machine" generally, or a particular "clover and grass-seed harvester?"

Answer. Judging from the title of the patent, I should consider it had reference to a clover and grass-seed harvester rather than a harvesting machine generally.

30th. By the same. Do you suppose the description contained in the said specifications was intended to describe any particular clover and grass-seed harvester, as claimed to have been made by any particular person? And if so, what particular machine, and by whom made?

Answer. They do describe the specific invention of Thomas S. Steadman, known as his improvements in clover and grass-seed harvesters.

31st. By the same. Do you understand that it is claimed that Steadman invented the whole machine, as described in these specifications?

Answer. I do not.

32nd. By the same. Then please answer question 29.

74 Answer. As already said, they do describe his improvements, and they describe, in addition thereto, some portions of a machine which he does not claim to be his invention.

33rd. By the same. Do the specifications describe what you suppose to be a practical and working machine in all its parts?

Answer. I believe they do.

34th. By the same. By whom do you understand such a machine is claimed to have been made?

Answer. By Thomas S. Steadman.

35th. By the same. For what purpose?

Answer. For harvesting clover and grass seed.

36th. By the same. Did you ever see a machine such as described in these specifications in operation?

Answer. If you mean just such a machine in all its parts, I have not seen such an one in operation.

37th. By the same. Did you ever see a clover harvester of any kind in operation in the field? if so, name them.

Answer. I have; but I do not now recollect their names, nor the inventors, not by whom manufactured.

38th. By the same. What do you understand by the term "gearing," as used in machines?

Answer. A combination of toothed wheels.

39th. By the same. Look at defendant's model No. 3. Do you find therein a main frame?

Answer. I do.

40th. By the same. Do you also find that main frame in combina-

tion with a supplemental frame, on which is secured the master-wheel axle?

Answer. I do.

41st. By the same. Do you also find therein the employment of a retaining arc, or its equivalent?

Answer. I do.

42nd. By the same. Do you find the whole constructed and arranged in such a manner that the main frame and supplementary frame, with its master-wheel axle, will be held in parallel planes, relatively to each other, while they are moving up and down?

Answer. I do.

43rd. By the same. Look at defendant's model No. 5. Do
75 you find therein a main frame?

Answer. I do.

44th. By the same. Do you find that frame in combination with a supplementary frame, on which is secured the master-wheel axle?

Answer. I find the main frame in combination with a supplemental frame, having an axle, but not of a master-wheel.

45th. By the same. Is that the wheel which gives motion to the machine?

Answer. It does not give motion to the machine.

46th. By the same. What does give motion to the machine?

Answer. The horses, or power attached to the tongue or draft-pole.

47th. By the same. Have you not stated that a wheel on the left-hand side of defendant's model No. 1 was called the master-wheel, because it imparted motion to the machine?

Answer. If I have, I most certainly meant such parts as were in gear with it, and not the entire frame.

48th. By the same. Does that wheel give motion to other parts, or is the motion given by the horses or power attached to the draft-pole?

Answer. The motion is given to the wheel by the horses or power attached, and it gives motion to the working parts of the machines attached.

49th. By the same. Has not the machine illustrated by defendant's model No. 5, working parts?

Answer. It has.

50th. By the same. Are those the cutters or cultivators represented in said model?

Answer. They are part of the working parts.

51st. By the same. Does not the wheel alluded to fulfil the same office in the machine illustrated in the model No. 5, as is fulfilled by what you term the master wheel, on the right hand side of defendant's model No. 1?

Answer. I do not recollect that I have styled the right-hand wheel, in defendant's model No. 1, as a master-wheel. But it performs the same office in the two machines illustrated by the models.

52nd. By the same. Do you also find in defendant's model
76 No. 5 the employment of a retaining arc?

Answer. I do.

53rd. By the same. Do you find the whole constructed and arranged in such a manner that the main frame and supplementary frame, with its wheel axle, will be held in parallel planes, relatively to each other, while they are moving up and down?

Answer. I do.

54th. By the same. Examine defendant's model No. 1, and state whether there is any contrivance shown therein to prevent the front end of box "a" from sliding upon the ground except when the levers upon the side thereof are held rigidly at some particular point?

Answer. There is not.

55th. By the same. When said levers are held rigid at any particular point, can the arm or supplementary frame vibrate in any direction?

Answer. It can vibrate downwards from the levers.

56th. By the same. Will not the front end of the box fall with the supplementary frame in such case?

Answer. It would, if it were not passing over anything which would hold the box up, independent of the wheels.

57th. By the same. Do you mean by that, if the front end of box "a" was not resting upon the ground, or upon some object itself upon the ground?

Answer. I do.

58th. By the same. In case the front end of the box was resting upon the ground, would there be any weight upon the wheels; if so, what would it be?

Answer. There would be none.

59th. By the same. In that case would the traction be sufficient to enable the wheels to impart motion to the cutters?

Answer. It would depend entirely upon the amount of power it would require to drive the cutters, and the weight of the wheels or their traction on the ground.

J. BOYD ELLIOTT.

STATE OF NEW YORK, *Cayuga County:*

I, Horace T. Cook, hereby certify that I am a justice of the peace within and for the aforesaid county and State, acting by consent of parties as special examiner in the cause named in the caption of this deposition. I further certify, that at the time and place named in the caption, personally appeared before me the above-named J. Boyd Elliott, who, being by me first sworn to testify the truth, the whole truth, and nothing but the truth, in the cause named in the caption, did subscribe the foregoing deposition in my presence, after the same had been reduced to writing by me, in the presence of the witness; that said witness resides at a greater distance than one hundred miles from Cincinnati, in the southern district of Ohio; and that I am of counsel or attorney to either of the parties in the cause above named, or otherwise interested in the event thereof. All which is certified this 25th day of April, A. D. 1864.

77.

HORACE T. COOK.

"A."—The United States Patent Office, to all persons to whom these presents shall come, greeting:

This is to certify, that the annexed is a true copy from the files of the caveat filed May 12th, 1852, by Thomas S. Steadman.

In testimony whereof, I, John L. Hays, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this twenty-first day of October, in the year of our Lord one thousand eight hundred and sixty-three, and of the independence of the U. S. the eighty-eighth.

JOHN L. HAYS.

To the Commissioner of Patents:

The petition of Thomas S. Steadman, of the town of Murray, county of Orleans. and State of New York, respectfully represents: That he has made certain improvements in the machine for harvesting clover and grass seed, and that he is now engaged in making experiments for the purpose of perfecting the same, preparatory to his applying for letters patent therefor. He therefore prays that the subjoined description of his invention may be filed as a caveat in the confidential archives of the Patent Office, agreeably to the provisions of the act of Congress in that case made and provided, he having paid twenty dollars into the treasury of the United States, and otherwise complied with the requirements of the said act.

T. S. STEADMAN.

MURRAY, *April* 28, 1852.

My machine is constructed as follows: A box five feet wide and twelve feet long, may be more or less, is placed upon four wheels; one at each side near the front end, two and a half or three feet in diameter, two at the rear end of said box of from fourteen
78 inches to two feet diameter. These rear wheels are placed under the rear end of the box, and are hung on swivels similar to casters. The caster shafts or rods pass up through the bottom of the box to the top of the side pieces. To the top of each of these shafts is attached a lever longitudinally, which levers are connected together both in front and in rear of the shafts by ties that pass from one to the other. The operator, by taking hold of either of these levers, can turn the rear wheels argting either way to the machine, and guide or turn it at pleasure. The sides of this box are, say sixteen inches high, to which the front wheels are attached.

To the front end of the bottom of the box is attached teeth or fingers which are flat on top and an inch and a half or two inches broad; the spaces between them are about one-fourth of an inch; which teeth are sixteen inches long or thereabouts, extending horizontally in front, thus forming a very coarse comb extending the whole width of the machine. Over this comb is placed revolving spiral cutters which play nearly or quite down to it. These cutters, four in number, form a circle of about two and a half feet in diameter, and are hung on a shaft which has its bearings on the top of the side pieces of the box directly over the comb. Motion is communicated to the cutters by

means of a cogged pinion fixed on the end of their axles and a cog-wheel on the hub of the ground wheel that is on the left side of the machine, which pinion and cog-wheel are connected by means of an intermediate pinion which is used for the purpose of giving the cutters a backward motion across the cone "b." The ground wheel rolling upon the ground gives motion to the cutters; as the machine advances into the clover or grass the straws pass into between the comb teeth and the heads are cut off and thrown back by the cutters into the box until it is filled. Then the cutters are thrown out of gear by sliding the intermediate pinion out upon its axis until it is thrown out of mesh with the large cog-wheel, and then the machine is driven to the place of deposit and emptied.

79 For the purpose of raising and lowering the comb as circumstances may require, the driving wheel is attached to the box in the following manner: A bar of cast iron or other metal is placed on the outside of the box, the front end of which has a hole through it which is slipped on to the axis of the cutters inside of the pinion.

Near the centre of this bar is inserted the axis of the intermediate pinion, and on the back end of it is inserted the axle of the driving wheel. The back end of this bar is made broad and is secured to the side of the box by a bolt that passes through it and through a slot in the box. The bolt plays up and down in this slot as the machine is raised and lowered and holds the bar where it is placed by a nut that is screwed upon the inside of the box for that purpose. The back end of this bar is raised and lowered on the box by means of a lever that extends back from the bar, which is attached to the box by a bolt on which it turns as a fulcrum. The front end of this lever is a segment of a circle with cogs upon it that mesh into corresponding cogs in the back end of the bar. To raise the machine the bolt that holds the bar to its place is loosed, then raise on the back end of the lever, and the axle of the driving wheel is forced down on the side of the box and then fastened by the bolt. Being thus hung the machine is raised and lowered to suit any circumstances without interfering with the mesh of the cogs. The front wheel on the right side of the machine is placed on the inside of the box that it need not run on the uncut grass, nearly up to the cutters, and is attached to the box by means of its axis passing through a slot in the box which slides up and down in said slot as the machine is raised and lowered, and is held to its place by a nut on the end of it on the outside of the box which screws it fast to the box. The machine is propelled by a horse attached to the front end of the machine at the left side by means of a bale that passes across the front end of the machine or by shafts attached to a projection extending out at the left side near

80 the cutters.

T. S. STEADMAN.

Dated Murray, 28th April, 1852.

Circuit court of the United States for the southern district of Ohio, in equity.

WM. N. WHITELY
vs.
WILLIAM SWAYNE. } No. 1,482.

It is stipulated and agreed by and between the parties abovenamed, that the papers hereto annexed marked "A" may be read in evidence upon the hearing of this case by either party the same and with the same effect as if the same had been regularly in evidence before an examiner duly appointed by the circuit court of the United States for the southern district of Ohio, subject to all objections to the competency or relevancy of said proof.

SAM'L. S. FISHER,
Complainant's Solicitor.
D. WRIGHT,
Of Counsel for Defendant.

The United States Patent Office, to all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy from the records of this office, of the letters patent granted Frederick P. Root, June 8th, 1852.

In testimony whereof, I, D. P. Holloway, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this thirtieth day of June, in the year of our Lord one thousand eight hundred and sixty-three, and of the independence of the United States the eighty-seventh.

D. P. HOLLOWAY.

The United States of America, No. 9,003, to all to whom these letters patent shall come:

Whereas, Frederick P. Root, of Sweden, N. Y., has alleged that he has invented a new and useful improvement in wheel cultivators, which he states has not been known or used before his application; has made oath that he is a citizen of the United States; that he does verily believe that he is the original and first inventor or discoverer of the said improvement, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said improvements, and praying that a patent may be granted for that purpose.

81 These are therefore to grant, according to law, to the said Frederick P. Root, his heirs, administrators, or assigns, for the term of fourteen years, from the eighth day of June, one thousand eight hundred and fifty-two, the full and exclusive right and liberty of making, constructing, using, and vending to others, to be used, the said improvements, a description whereof is given in the

words of the said Root in the schedule hereunto annexed and is mad
part of these presents.

In testimony whereof, I have caused these letters to be mad
patent, and the seal of the Patent Office has been hereunto affixe
Given under my hand at the city of Washington, this eighth day
June, in the year of our Lord one thousand eight hundred and fif
two, and of the independence of the United States of America t
seventy-sixth.

ALEXANDER H. H. STUART,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office.
THOMAS EWBANK,
Commissioner of Patents.

[Here follow 2 diagrams, marked page 81.]

The schedule referred to in these letters patent, and making part of the same.

To all whom it may concern :

Be it known that I, Frederick P. Root, of the town of Sweden, in the county of Monroe, and State of New York, have invented certain new and useful improvements in wheeled cultivators, and I do hereby declare the following to be a full and clear description thereof, reference being had to the accompanying drawings forming part of this specification, in which figure 1 is an isometrical perspective o the machine: figure 2 is a view of one of the fixed semicircular plates over the cogged portion whereof the pinion of the segment-shaped lever travels; figure 3 is a perspective view of one of the pivoted segment-shaped levers with its axle; figure 4 is a similar view showing the opposite or interior face of the pivoted lever; figure 5 is a perspective view of one of the hollow teeth; figure 6 is a similar view showing the steel toe-piece detached. The same letters denote corresponding parts on all the figures. "A" is the frame, and B the tongue or draft pole thereof; C are the cultivator teeth,
made hollow, bolted to the frame A by bolts "a," and furn-
82 ished each with a steel toe-piece or shear D, and horizontal
cap-plate r, and upright flanch s, by which said teeth may be further secured. In the centre of the hollow of each tooth there i a rib o (see fig. 5) for the purpose of increasing the strength of th tooth. As these parts are more or less common to all cultivators, more particular description thereof is not deemed necessary. My improvements do not relate to the use of cranks on which the wheels are hung, nor to the use of a crank motion for raising and lowering the frame containing the teeth; but my improvements especially relate to mounting the wheels upon axles, when said axles projec from pivoted segment-shaped levers, also in the particular manner o confining the segment portion of the pivoted levers; likewise in

attaching to the frame vertical segment plates, cogged on a portion of their circumference to receive the action of pinions fixed to the levers. The segment-shaped levers are pivoted at E (see fig's 3 and 4) to the side beams of the frame, and forming at their pivoted ends about one-third of the circle, whose semidiameter is equal to that of the fixed semicircular plate H, and from the ends of these levers project horizontally the axles F, on which the carrying wheels G G are mounted and secured in the usual manner. Adjacent to the segment portion of the levers, and bolted to the frame, there are vertical semicircular plates H H, having a portion of their circumference cogged, as seen in fig. 2, over which trave' with the movement of the lever, a pinion I attached to said le :r by a pin on which it turns; J is a spring catch attached by a pin to the handle k of the pivoted lever, the lower end whereof fits between the teeth of the pinion as at g, and thus forms a lock thereto, and the upper end is furnished with a spring I (see fig. 4) for retaining the catch in lock with the pinion I. The uncogged circumference of each semicircular plate H has a flanch d, which, in addition to the cap plate b, seen in fig. 2, bolted thereto, forms a case to receive and confine the circumference of the segmental portion n of each lever, thus effectually securing and supporting the segmental portion of
83 the lever, allowing it to turn therein. In grasping the handle K of the pivoted lever with the hand, and bearing the upper portion of the spring catch J close thereto, the pinion I will be free to turn, and by raising or lowering the lever (turning on its pivot bolt) the pinion I will travel over the cogged circumference of the fixed plate H, and the frame A will in the same manner and proportion be elevated or depressed, and retained thus by locking the pinion I with the spring catch J. In this manner both the levers are operated, and the frame with the cultivator teeth adjusted to and held at any required position. Instead of the flanch and cap of the plate H, hooks c may be attached to the circumference of the segment portion of the lever for embracing the uncogged circumference of the semicircular plate H to hold the pivoted lever to said plate.

Having thus explained my improvements in wheeled cultivators, I will here state that I am fully aware that there are other modes of raising and lowering the frame containing the teeth of cultivators in use, particularly that patented to David B. Rogers, January 16th, 1849, which consists mainly of a combination of a crank axle-tree extending across the centre of the frame, on the ends or cranks whereof are mounted the sustaining wheels. While I acknowledge the similarity of the lifting action of the cranks of the axle-tree to that of the pivoted segment levers used by me, and which I disclaim, yet I am not aware that Mr. Rogers is entitled to claim all means for effecting the same result, and I conceive that my improvements differ in material points from his, and which form the subject of my claims as follows:

1st. Mounting the carrying wheels upon axle F, only when said axles F are made to project from pivoted segment-shaped lever at each side of the frame, in the manner and for the purposes specified.

In testimony whereof, I have hereunto signed my name before two subscribing witnesses.

F. P. ROOT.

Witnesses:
D. J. AVERY.
N. K. WRIGHT.

Depositions of witnesses taken in the cause pending in the circuit court of the United States for the 7th circuit and southern
84 district of Ohio, in chancery, wherein William N. Whitely is plaintiff, and William Swayne is defendant, taken by consent of counsel to be read in evidence on the hearing of this case. Present, George M. Lee, esq., solicitor for the complainant, and David Wright, esq., counsel for defendant, at the clerk's office of said court, on the 11th day of March, A. D. 1863, before me, H. B. Stevens, special examiner.

Homer P. K. Peck, being first duly sworn as hereinafter certified, deposeth as follows:

Examined by David Wright, of counsel for defendant.

Question 1st. What is your age, residence, occupation, profession, or business?

Answer. My age is 44 years; residence, Hamilton, Ohio; am a lawyer by profession, engaged in the practice of law and the soliciting of patents.

Q. 2. Have you ever been connected with the United States Patent Office? If yea, in what capacity; how long, and in what department?

A. I have been an officer in the United States Patent Office for about nine years, in the capacity of an assistant examiner, principal examiner, and member of the board of appeals; have had charge of the examination of harvesting machines and other agricultural machines; my connection ceased with the Patent Office last July.

Q. 3. Have you seen and examined the reaping and mowing machine, numbered "3,099," marked "Buffalo Agricultural Machine Works" on the tool box, and also marked A, in black paint, on the sector plate?

A. I have.

Q. 4. Have you seen and examined certified copies of the specification and claims of the following patent, namely, the original patent to Thomas S. Steadman, dated May 23rd, 1854, for improvements in clover and grass-seed harvesters, and the reissues, Nos. 985 and 986, granted to William N. Whitely, jr., assignee of Thomas S. Steadman, dated June 19th, 1860?

A. I have.

Q. 5. Do you find in said machine, "No. 3,099," a main
85 frame which carries the pinion which drives the cutters? If yea, do you find the same substantially different from the main frame or box A, described in the said reissue, No. 985? If yea, state wherein that difference consists.

(Mr. Lee objects to all this question, except the last clause, as being both direct and leading.)

A. I do find in said machine No. 3,099 a main frame which carries a pinion-shaft, on the end of which is a pinion which drives the cutters. The main frame differs substantially from the frame or box A, described in said reissue patent No. 985; the difference consists in the construction and the functions which they are capable of performing, the one being a mere skeleton frame arranged between the driving wheel and the cutting apparatus, for the purpose of connecting them and carrying the principal part of the gearing; the other being a wooden box arranged between two large wheels, with a comb of teeth fastened to its front end for the purpose of gathering clover and grass-seed, which is deposited in the box when the machine is in operation. They are incapable of successfully performing the same functions in the field, being only adapted for different kinds of work.

Q. 6. Do you find in said machine No. 3,099 an arm or supplementary frame provided with an axle? and is or is not the same substantially different from the arm or supplementary frame described in said reissue No. 985? If yea, state wherein the difference consists. Answer fully.

(Mr. Lee makes the same objection as to the last question.)

A. I do find in machine No. 3,099 a supplementary frame, differing in form and some of its features from the arm or supplementary frame described in said reissued patent. The difference consists in its structure, by which it serves as a guard of the gearing, namely, that on the main wheel and the small pinion with which it meshes, and in its capacity to govern the operations of the machine in its vertical vibrations, which allow the finger-bar to follow the undulations of the ground. These peculiarities of construction are not found in that reissued patent, the machine which it describes requir-
86 ing two supplementary frames, and these are both essential to its operation.

Q. 7. Do you find in said machine No. 3,099 a main wheel and gearing? and is or is not the same substantially different from the main wheel and gearing described in said reissue? And if different, state wherein that difference consists. Answer fully.

(Mr. Lee objects to the form of this question, to the answer which may follow it, and to all the previous questions and answers, because the questions are direct, leading, and improper, and gives notice that he will move to exclude all the previous answers for this reason, and all other answers which may hereafter follow questions of similar form.)

A. The main wheel of machine 3,099 differs from that described in the reissue 985, in being furnished with a large gearing-wheel, or rim upon its face, and the gearing differs in construction as a system of gearing, the latter being only capable of giving a revolving movement to a shaft carrying the cutters, and that movement is necessarily reversed in direction to give the proper direction to the cutters, which is done by interposing a gear-wheel and cutter pinion-gear; which intermediate gear is removable for the purpose of stopping the operation of the cutters, or when the machine is taken from the

field to be unloaded. In machine No. 3,099 these devices are not employed; but the operation of its gearing converts the rotary into a reciprocating horizontal motion; the one system of gearing is not the equivalent of the other of the proposed objects of the machines.

Q. 8. Do you find in the machine 3,099 an arm or supplementary frame, in combination with a master or driving-wheel and gearing? If yea, is or is not the same substantially different from the arm or supplementary frame, master-wheel and gearing, as combined in reissue No. 985? If yea, wherein does that difference consist? Answer fully.

(Mr. Lee makes the same objection as to previous questions.)

A. I do find such a combination in machine No. 3,099. I do find a substantial difference between the two combinations re-
87 ferred to. The difference consists in the construction and arrangement of the supplementary frames, and the systems of gearing as explained in my answers to the 6th and 7th questions, whereby different effects are produced, as already stated.

Q. 9. Describe the manner in which the arm or supplementary frame is connected with the main frame in reissue 985; and state whether or not the supplementary frame in machine No. 3,099 is differently connected with the main frame of said machine. If yea, state wherein the difference consists. Answer fully.

(Mr. Lee makes the same objection as to previous questions.)

A. The arm or supplementary frame in reissue No. 985 is connected directly to the pinion-shaft, which rests upon the main frame. It is provided at its front end with a hole just sufficient in size to permit the end of pinion or cutter-shaft to pass freely through it, and by it (said shaft) the supplementary frame is dragged with its gearing and main wheel, as the machine is drawn upon the ground. The supplementary frame of machine 3,099 is connected to the main frame by means of a cylindrical box, which is connected to the main frame, and through which the pinion-shaft passes, thereby relieving the pinion-shaft from the strain and friction to which it is subject in the machine described in the reissue, No. 985.

Q. 10. Were you the examiner who passed upon reissue No. 985? and do you find in the first claim in that reissue the phrase "substantially as described for the purpose specified," and in the second and last claim in said reissue the phrase, "substantially as shown and described for the purpose set forth?" If yea, state what those phrases indicate, and their meaning as understood by the officers in the United States Patent Office at the time said reissue was granted.

(The complainant's counsel object to this question, claiming that no construction of the Patent Office can be used as evidence
88 to alter or affect the grammatical or legal meaning of the language of a patent, the construction of such language being exclusively for the court, and not a matter for the testimony of experts.)

A. I was the examiner who examined and passed upon that reissue patent. The phrases referred to in said claims indicate that the claims are restricted or limited to the particular devices enumerated

in the claim, and to the purpose or purposes the mechanism and the machine are intended to accomplish. These phrases were understood by such officers as explained above; in other words, these limiting phrases were not generally required by the Patent Office to be made a part of the claim in a patent when the result or effect was old, and accomplished by a modified mechanism which furnished the elements of the claim.

Q. 11. Do you find in the machine No. 3,099 a main frame and arm, or supplementary frame, on which is formed or secured a master or driving-wheel axle, and the employment of a retaining arc in combination? If yea, state whether or not said main frame differs substantially from the main frame or box A, as described in said reissue No. 986; and if the same does so differ, state wherein that difference consists fully.

(Complainants repeat to this question the same objection first made.)

A. I do find such a combination. The main frames differ substantially, as explained in my answer to the 5th question—that answer applying as well to the reissue 986 as to the reissue 985.

Q. 12. State further whether or not the arm or supplementary frame found in said machine 3,099 differs substantially in form or function from the arm or supplementary frame as described said rereissue No. 986? And if different, state wherein.

(Complainant makes same objection as to the last question.)

A. The answer to question No. 6 applies equally to this question.

Q. 13. State further whether or not the retaining arc found in said machine 3,099 differs substantially in form or function from
89 the retaining arc as described in said reissue No. 986; and if different, state wherein.

A. It does differ in form and in some of its functions as a separate or independent device. The retaining arc in each of the machines referred to, is of a segmental or curved form, and each serves as a guide in the adjusting of the supplementary frame they are not, however, fully equivalent as mechanical devices, either in construction or in their operations. The machine described in the reissue No. 986 would be incapable of operation, were the single retaining arc of the machine No. 3,099 applied to it, because its construction is such that it requires for effective use two segmental arcs or guides, one on each side of the main frame or box with which they are combined, and the main frame or box is a necessary feature to constitute, with the two arcs or guides, the guiding grooves of the segmental or supplementary frame or arc.

Q. 14. Do you or do you not find the construction and arrangement of said main frame and arm or supplementary frame, and said retaining arc, thus found in the machine No. 3,099, to differ substantially in construction or arrangement from the construction or arrangement of the main frame or box A, and arm or supplementary frame, and the employment of a retaining arc as described in said reissue No. 986? If you do find a difference, state wherein such difference exists fully.

(Same objection.)

Ans. I do find a material and substantial difference in the construction and arrangement of these device in the two machines referred to, but I believe I have explained wherein the difference consists in my former answers.

Q. 15. You have said in your examination that you were the examiner who passed these reissues Nos. 985 and 986. Will you state whether or not the specifications and claims made by the patentee named in the reissued patents were modified before said reissued patents were granted? and if so modified, state wherein and
90 wherefore were they so modified. State the particulars, so far as you now recollect the same, fully.

(Complainant's counsel object to this question, because the best and only legal mode of proving such modification is by producing the modified papers themselves. And the purpose of the modification can only be proved by an inspection of the papers so modified, and not by what may have been said or thought by the parties.)

Ans. I examined those reissues, and required before allowing the patents to pass for issue, amendments and alterations of the specifications and claims. I returned the specifications for restrictions and limitations of the alleged scope of the invention as set forth therein. I required the title of the invention to be changed from improvement in "Harvesting Machines" to improvement in "Clover and Grass-seed Harvesters," because this was the original title, and because the machine was so constructed as to be incapable of the functions of harvesting grass or grain as a reaping or mowing machine. The word harvesting was rejected for the same reason. The word box was required to be inserted for body or main frame; a part of the description alleging that the machine was capable of operation as a harvester, and that it was within the scope of the invention to leave out one of the gearing wheels, was also rejected; "finger bar" was also rejected by the decision of the office. That part of the description which conveyed by implication the idea that a single main wheel, a single arm or supplementary frame and a single arc for guiding the supplementary frame were alone capable of operating the machine, was rejected and cancelled as new matter, involving a different invention from that embraced in the original record of the patent. The sentence "for cutting the stubble of an even length" was rejected and cancelled. A part of one of the specifications, alleging that one of the arms or supplementary frames forms no part of the application, was rejected and cancelled. The allegation that one of the main wheels was a "grain wheel" was rejected, because if the
91 machine were used for harvesting grain as a reaper, said wheel would travel in the uncut grain and break it down, instead of travelling on the stubble, as is the case with the grain wheel proper of a reaping or mowing machine. Some of the reasons for the rejection of these and other parts of the specifications are contained in the Patent Office letter dated April 19, 1860, and written by me at that time. The necessity of these restrictions of both of the specifications arose from the nature and purpose of the invention, as found described and illustrated in the original record, which includes

specifications, drawings, and model of the patent granted to T. S. Steadman, May 23d, 1854. Also from the fact that the specifications and claims, without the limitations and modifications which were required, were deemed to embrace in their descriptions improvements in harvesting machines, which had been patented at a date prior to May 23, 1854, as well as distinct improvements of a subsequent date, for which the Patent Office had granted letters patent, in full view of all that was embraced in the said Steadman patent, or record appertaining to it. My memory with regard to the proceedings referred to in this answer has been assisted by an examination of certified fac simile copies of the original and final reissues; specifications containing the marginal notes made in the examination of them; also by an examination of a certified copy of the official letters referred to.

Q. 16. State whether, in your opinion, the machine, as described in said reissued patents, could be adapted to cutting grass or grain as a grass or grain harvester; if not, why not?

Ans. The machine could not be successfully used for such purposes, for the reasons before stated in some of my answers. To adapt the machine to such uses, the cutting apparatus would require to be substituted by another of a different construction, and a different main frame would be required in place of the box or main frame, the comb of teeth would require to be substituted by differently constructed guard fingers, and for cutting grass as a mower, a finger bar
92 would have to be used instead of the front piece of the box or frame, with some means of connecting it with the supplementary frame, and other alterations would be required.

It is admitted by counsel of both parties that Mr. Steadman, the patentee, is still living and resides in Van Buren county, Michigan.

Cross-examined by Messrs. Lee and Fisher:

Q. 17. Until the last answer have your former answers, except the last, been read from a prepared paper which you had before you?

A. In part they have.

Q. 18. Question repeated. I mean to say that answers have been partly read from a prepared paper.

Q. 19. What part?

A. I believe the larger part.

Q. 20. Will you produce this paper and attach it as an exhibit?

(Counsel for defendant objects to the production of any paper as an exhibit by the witness.)

A. I should have no objection to do so if the matter were in my control, or if the parties assent to it, accompanying it with an explanation as to who prepared and when it was prepared.

Q. 21. Is the paper now in your pocket?

A. It is now in my hand.

Q. 22. Will you please pass it to the Commissioner and make such explanation at the same time as you please?

(Counsel for defendant objects to passing any paper to the Commissioner which is not to be made an exhibit. But they have no objection that the counsel for plaintiff shall inspect it if they desire.

Complainant's counsel replies that he wishes both to inspect the paper and to make it an exhibit.)

A. I have no objection to the counsel for either party examining the paper, it being hastily prepared answers to questions submitted to me yesterday afternoon, and which answers I wrote out last evening, and found some errors and discrepancies which I have corrected in my verbal answers to the questions propounded to me to-day in this examination.

(Paper handed to Mr. Lee.)

Q. 23. Whose handwriting is the paper now handed me,
93 marked upon it back in pencil?

Ans. And herewith submitted to the commission as an exhibit with that mark in?

(Counsel for defendant objects to the receipt of said paper by the commissioner as an exhibit.)

A. The paper handed to the counsel for the pl't'ff, for his examination, is in my own handwriting, and is marked on the back, as stated in the question.

Q. 24. I notice answers are numbered in this paper from 1 to 17. Who presented these questions to which these answers were given?

A. The counsel, Mr. Wright, now present.

Q. 25. Have similar questions again been read by def't's counsel to you to-day, to which you have given substantially these answers?

A. The questions which were left with me yesterday, about 3 o'clock, p. m., were returned by me this morning to counsel for def't, who left them with me. I have not observed particularly whether the def't's counsel made use of those questions, which were in writing, or not; but he has asked me substantially the same questions to-day, which were submitted to me in writing, as before stated.

Q. 26. Have the questions of your examination in chief been read to you by the counsel from a paper?

A. I think the counsel for the def't had in his hand, or upon his knee, some paper to which he referred in asking the questions in my direct examination; but whether the papers which he had were those containing the questions I returned him, I cannot say, as I did not particularly observe.

Q. 27. Was this paper of answers you produced submitted to def't's counsel before your examination?

A. When the def't's counsel left the questions referred to in my former answers with me yesterday, he immediately left my office before I had written any of the answers to them. When next I saw him, which was this morning, he asked me if I had prepared any minutes or notes, or something to that effect, of answers to the questions which he had left. I answered yes, and handed him the imperfect answers contained in the paper from which I read in giving my examination in chief.

94 Q. 28. Did you ever testify as an expert before?

A. I believe I have.

Q. 29. State the case—where, when, and what about?

A. I cannot now recollect distinctly the cases in which I may have given testimony as an expert. I do, however, recollect some of the circumstances in one instance, and that related to mechanics, at Washington city, some time ago; I don't recollect how long.

Q. 30. What kind of mechanics?

A. Perhaps I should have said, instead of mechanics, agricultural machines, to be more definite.

Q. 31. Did you swear on the stand, or give an affidavit?

Ans. I think it was either an affidavit or deposition.

Q. 32. Were you cross-examined?

Ans. If I recollect right, I was not.

Q. 33. Have you appeared as an expert witness before for any party in the federal courts? If so, when and where in any patent case?

Ans. I don't now recollect any instance of having been so examined, except the case referred to in my answer to the 30 and 31st questions.

Q. 34. When were you first called upon to examine this case with a view to testify as an expert?

A. Yesterday. But I had received from the def't, I suppose, a letter, something like a week or more before, asking me if I would so act, or could so act, or something to that effect.

(Mr. Lee presents the paper heretofore referred to, marked Ans., and asked that it be attached as an exhibit to this deposition. Counsel for def't objects to the attaching of said paper as requested, or to its receipt as an exhibit, upon the ground that the witness, nor the counsel, nor both combined, has or have the legal right thus to make evidence of said paper. Examiner declines attaching the paper as an exhibit without the consent of the witness. Paper handed back to witness.)

Q. 35. Will you consent to present the paper, and have it attached to the deposition?

Ans. I would cheerfully do so if it had not been prepared in such haste, and found by me subsequently to contain some errors and discrepancies; but for these reasons I decline.

95 Q. 36. When did you first see, since you passed upon it as an examiner, reissue 985?

A. I cannot tell, as I do not recollect.

Q. 37. When in reference to this case?

Ans. I have had occasion, at different times, to examine said reissue since it was granted up to July last, when my connection ceased with the Patent Office; but since that time I have not examined said reissue until within about a week past.

Q. 38. In answer to question 34 you say you were first called upon to examine this case with a view of testifying as an expert yesterday, and you mention no other communication except a letter from def't, which you referred to. How, then, does it happen that you examined reissue 985, in reference to this case, a week ago?

Ans. As I stated in that answer, I received a letter, about a week ago or more, asking me to be examined as an expert in this case;

but I was not called upon by any individual upon the subject until yesterday, and I received from D. M. Osborne, certified copies of the reissued patents, No. 985 and 986, and of the original upon which they were granted, by express. I mean the original and final specification and claims of those reissued patents.

Q. 39. When did you first see the machine 3099?

A. This morning; but have often seen the model of the same in the Patent Office.

Q. 40. What do you understand to be the office of the claims in reissues 985 and 986, as distinguished from the body of the specifications?

A. That office is designated in the law, requiring the applicant for a patent to specify and point out the particular improvement or improvements which he regards as his own invention; and I so understand the office of the claim.

Q. 41. Do you not, also, understand that the claim of the patentee is endorsed by the Patent Office and the government?

Ans. I do not know as I understand the term endorsed in the sense intended; but the patent is signed by the Com'r of Patents and Sec. of the Interior as officers of the government.

96 Q. 42. Is not the claim in a granted patent an evidence not only of what the patentee regards as his invention, but what the Patent Office regards as such invention?

A. I so understand it.

Q. 43. In the first claim of reissue 985, what is the first element of the combination therein specified?

A. The first element is the main frame or box A.

Q. 44. What function of the main frame is specified in the claim?

Ans. The function of carrying the pinion which drives the cutters.

Q. 45. Do you find any other function of said frame therein specified?

A. I find no other function expressly stated nor implied further than is included in the words "substantially as described for the purposes specified."

Q. 46. What is the useful result intended to be produced by the devices specified in combination in the first claim of reissue 985?

A. I find that the novel combination of the devices is intended to accomplish the purposes specified in the body of the specifications, and as shown by the drawings.

Q. 47. What are those purposes?

A. Subordinately to the principal purpose, which is the gathering of grass and clover seed, the effecting of the peculiar or particular functions of the devices claimed in combination.

Q. 48. These are patents for improvements in clover and grass-seed harvesters, are they not?

A. They purport to be such.

Q. 49. What is the improvement effected by the combination of the devices specified in the first claim of reissue No. 985?

A. The word improvement, as made use of in patents and their

titles, does not signify that the particular invention is better than others of the same class; but it refers rather to the novelty of the invention. The improvement or novelty consists in the construction and combination of the devices named in the claim for the purpose or purposes referred to by the language, "substantially as described for the purposes specified."

Q. 50. You are again asked what those purposes are?

97 Ans. One, and the main purpose referred to in the claim, is expressed in its title, "Clover and Grass-seed Harvesters." Another purpose, which may be regarded as subordinate to the rest, is the capability of the devices contained in the combination claimed of permitting or allowing the main frame or box "A" and the cutting apparatus to be adjusted vertically in relation to the supplemental frame and its appendages, whereby the main or principal object of the machine may be accomplished in fields of grass or clover of different heights.

Q. 51. Do the devices named in the first claim of themselves constitute a clover and grass-seed harvester?

Ans. They only contribute parts towards its completeness.

Q. 52. Does not the novel combination specified in the first claim accomplish or perform, only as a combination, the second function named in your answer before the last?

A. I think I have already stated that that function (the vertical adjustment) is capable of being performed through the medium and by the aid of the devices embraced in the combination.

Q. 53. Is not this vertical adjustment declared by the patentee to be the purpose of his invention in the 5th, 6th, 7th, 8th, 9th, and 10th lines of the original reissue, patent 985?

A. He recites in the lines stated that the invention relates to that kind of machines in which the height of the cutting apparatus from the ground is varied by changing the relative positions of the main frame and master-wheel axle or shaft, and consists in connecting the main frame or box of the machine with the master-wheel axle, by means of an arm or supplementary frame on which the master-wheel axle is formed or fastened, and which arm is arranged with the main frame or box and its pinion-shaft in such a manner as said main frame may be raised and lowered, and held at different heights relatively to the master-wheel axle, and so that the said main frame and supplementary frame shall both vibrate relatively to each other

98 around a common center, which is co-incident with the axis of the pinion-shaft. But this recitation of invention does not include all the means by which such adjustment is made; nor does it show a specific construction of the devices embraced in the claims.

Q. 54. Do not the devices specified in the first claim embody the invention stated in the words just quoted?

A. The best definition that I am able to give of the quotation referred to is its own language. The invention embodied in the first claim is limited by specific and definite language and by letters of reference to a much greater extent than the recital of invention, which serves as the preamble to the schedule of letters patent.

Q. 55. Question repeated.

A. The recital of invention embraces in general terms a description of the functions of which the invention is capable, and I suppose that the mechanism claimed in combination will effect that function.

Q. 56. To effect that function, is it necessary that the main frame should have any other function than that of carrying the pinion which drives the cutters?

A. I would premise by saying that patents are not granted for the effects or results of mechanism, but for the tangible means by which those results or effects are obtained. To be a useful machine, it would be necessary that it have some other function. Yet I have no doubt that the particular movement referred to might be accomplished by the use of an entirely different main frame provided with suitable means of connecting them, which means is the pinion-shaft in this reissued patent No. 985, of the Steadman patent.

Q. 57. What is the second element of the combination specified in the first claim of reissue 985?

A. It appears to be the arm or supplementary frame J.

Q. 58. Is there more than one arm J named in the patent?

Ans. There are two arms mentioned in the patent which are alike, but one of which is referred to in the letter J, without an index.

Q. 59. Does the other arm carry any gearing, or revolve about the pinion-shaft, or carry the main driving-wheel?

99 (Counsel for def't objects to the use of the phrase "the main driving-wheel," when the drawings show "two main driving-wheels.")

Counsel for complainant replies that the drawings do not show two main driving-wheels, but, on the contrary, show but one; and the specifications, after naming two supporting wheels, expressly recites that one of these, B, is the master or main driving wheel of the machine.

A. Strictly speaking, neither of them revolves around the pinion-shaft; yet they vibrate, the one marked J upon the pinion-shaft, and the other, from its pivot, on the opposite side of the main frame or box, according to my memory—not having the machines before me—from its connection, which is directly opposite or nearly so, to the connection of that marked J. It carries no gearing, (that is, the arm J?) It carries a supporting wheel precisely like the wheel upon the shaft J, but does not operate the mechanism which drives the cutters.

Q. 60. Does the machine 3,099 belong to that class of machines in which the height of the cutting apparatus from the ground is varied by changing the relative positions of the main frame and master-wheel axle or shaft?

Ans. It is capable of such an adjustment, and I regard it as being within that class.

Q. 61. In that machine, 3,099, is the main frame connected with the master-wheel axle by means of an arm or supplemental frame, on which the master-wheel axle is formed or fastened?

A. The supplemental frame in that machine is constructed as I have already described, and has the axle for the driving-wheel upon it, and is intermediate or between the main frame or wheel, being secured to the main frame through the medium of a cylinder, box, or tube, which is connected to the main frame.

Q. 62. In that machine, 3,099, is the supplementary arm or frame arranged with the main frame and pinion-shaft in such a manner as said main frame may be raised or lowered, and held at different heights relatively to the master-wheel axle?

A. The normal condition of its action in the field will per-
100 mit a constant oscillation or vibration of the main frame and its finger beam, in relation to the supplementary frame. I believe it is provided with holes, either in the main frame or supplementary frame, by which the adjustment described in the question may be affected by the use of a key or pin.

Adjourned to 9 a. m., Thursday, March 2, 1863.

THURSDAY, 9 *a. m.*

Witness adds to his last answer: When so raised, the main wheel and wheel will stand at an angle to a horizontal plane.

Q. 63. In said machine 3,099, is there not an adjustable castor-wheel, by which, when the main frame is so raised, the wheel and supplemental frame may be retained in a vertical position?

Ans. In that particular machine I did not notice any particular castor wheel.

Q. 64. Is there not in that machine some device for retaining the finger-bar in a horizontal position when the machine is raised for reaping?

Ans. In my examination of that machine, I found the platform detached. To that my attention was not so particularly directed; but I believe there was no wheel or other device at the end of the finger-bar for raising its outer end. There may have been upon the platform.

Q. 65. If the main frame be raised for reaping by means of the device for vertical adjustment, is it not necessary, to constitute said machine 3,099 a practical reaper, that the outer end of the finger-bar should be correspondingly raised by a wheel, or other device?

A. I think not; but in such circumstances the machine would cut the stubble at an angle.

Q. 66. What would be the difference in the height of the stubble at the outer and inner ends of the finger-bar in such a case?

A. That would entirely depend upon the extent or degree of elevation of that end of the finger-bar towards the wheel.

Q. 67. Do you know the average height of the cut in reaping and in mowing? If so, state what it is.

A. The height of the stubble in reaping varies from about
101 three inches to twelve inches generally, in the use of different implements for cutting. Where the straw is a material object, the stubble is cut short. In moving it is the practice to cut the grass as near the ground, when the machine is used, as can be-

done, with the finger-beam resting or sliding upon the ground. The stubble will vary in length, according to the character of the surface of the ground, from one-fourth of an inch, and sometimes less, to four or five inches.

Q. 68. Suppose machine 3,099, used for mowing, cutting a stubble of one inch, and that the inner end next the main frame be then raised for reaping a stubble of ten inches, what would be the variation of the stubble in the swath cut by the machine?

Ans. If held in that angular position the stubble would vary from 10 to 1 inches in height.

Q. 69. Is this your notion of a practicable reaping machine?

Ans. I would not so adjust a machine for operation in the field.

Q. 70. Question repeated.

Ans. I think that answer is a full one, for the question seems to be general, though if Mr. Fisher will explain to me wherein it is not, I I will endeavor to make it so.

Q. 71. The question relates to the machine 3,099, so inclined as to cut a swath varying from 10 inches in height at the inner end to 1 inch at the outer end of the finger-bar, and you are asked whether you would call a machine so operating a practicable reaping machine; can you answer "yes" or "no?"

Ans. Yes. Because the practicability of a reaping machine, such as that referred to by the number 3,099, does not depend upon an adjustment of the finger-bar in a horizontal line.

Q. 72. Would not the grain in such case slide over to the grain side of the platform, and impede the delivery?

Ans. In the machine 3,099, when used for reaping, there is no necessity of such adjustment; but if it were operated with the finger-bar and platform at such an angle, the oscillating or jogging motion os the machine, in its progress, would tend to slide the stalks of grain towards the grain side of the platform.

102 Q. 73. What is there about the machine 3,099, when used for reaping, that prevents the necessity of such adjustment?

Ans. Its capability of operation as a reaper when the finger-bar, or rather the shoes at each end of it, rest upon the ground.

Q. 74. Is the machine 3,099 made to operate as a reaper with the shoes at each end of the finger-bar resting upon the ground; if so, what is the difference in its operation as a reaper and a mower.

Ans. It is capable of being so used when the operation would be alike, so far as cutting the grain or grass is concerned.

Q. 75. When operating as a reaper with the shoes on the ground, what would be the height of the stubble?

Ans. The stubble would be of the same length as in mowing, unless the platform, or something connected with it, should occasion a variation. I have already stated about the average height of stubble mown by such a machine under such circumstances.

Q. 76. You say the machine, described in reissue 985, is incapable of harvesting grass or grain. Please state how you harvest grass seed without cutting grass?

Ans. I did not so state, as I remember. The language I used was

substantially this: That the machine referred to in the reissued patent 985, was incapable of the functions of harvesting grass or grain as a reaping or mowing machine. The manner of harvesting grass seed is generally by a machine provided with a comb, which serves to pull off the heads of the clover, and these machines are sometimes provided with a revolving roller placed longitudinally with the comb of teeth and above it, provided with knives which revolve with it. The incapacity referred to arises from the construction of the machine as explained or referred to in the Patent Office letter to which I referred in my direct examination. Also, to other conditions of its construction.

Q. 77. Did you ever see a machine made according to the issue 985; if it be possible, please answer "yes" or "no."

A. With a proper regard to truth and consistency, ques-
103 tions involving so much matter cannot always be answered by a mere affirmative or negative. But I believe I have not, excepting the model of that machine in the patent office, and a certified duplicate of the same.

Q. 78. How do you know that a full-sized machine, made according to reissue 985, would be incapable or harvesting grass or grain as a mower or reaper. Do you mean to swear that such machines have not been, in fact, so used?

Ans. I know from actual experience in the harvest field what the essential functions of a machine must be to properly harvest grass or grain as a reaper or mower. The machine referred to in the patent 985, lacks several of those essential component parts and arrangements of a reaper and mower proper, most of which I have already, in the course of my examination, referred to. I mean to say simply, that the incapacity arises mainly from the manner of construction and operation of the machine.

Q. 79. Name now, and as distinctly as you can, all the essential component parts of a reaper or mower, which are lacking on the machine No. 985.

Ans. It lacks what I regard as the most essential element, a suitable cutting apparatus, the knives of which are caused to revolve vertically, in such a manner as to come down in the arc of a circle upon the standing crop. It also lacks the means of discharging the cut material upon the ground as a harvester of either grass or grain. It lacks the guard or finger of suitable construction for these purposes. It lacks any means which would be necessary to prevent the wheel at the grain side from running in the uncut grain or grass, thereby breaking it down. It lacks, as a whole, the construction necessary to a harvester of grass or grain, having but few of the less important functions common and necessary to a practical reaping or mowing machine.

Q. 80. Won't this machine cut grass or grain just as it is, at heights varying from one to twelve inches?

A. It will not in a manner necessary in reaping and mowing.

104 Q. 81. Question repeated.

Ans. I may add, that the cutters which revolve as the ma-

chine progresses, do so at considerable intervals, in regard to the distance the machine passes between said revolutions; but when they do perform their circuit, if the machine is sufficiently elevated, so that these cutters can reach over the heads of the grass, they will cut them off the heads of the grass between the comb teeth.

Q. 82. What is there about the device for vertical adjustment that renders it incapable of transfer to or use upon an ordinary reaper or mower?

A. The modification which I have described in my examination-in-chief.

Q. 83. Please answer the question now without reference to any former answers.

A. A more specific answer would depend upon what is meant by "ordinary" in the question. Because there are various classes of such machine.

Q. 84. Answer with reference to the "Sylla & Adams," "Hubbard," or "Aultman" machines.

A. I think the vertical adjustment referred to effected by a modified mechanism has been used in several machines; among the number, if my memory is correct, will be found the machines invented by Densmore, Greene, and others, which I cannot now name. To apply the devices themselves by which that adjustment is effected in the Steadman machine to the machine named in the question, alterations would be necessary which might amount to substantive, independent invention.

Q. 85. Could not the devices used in the Steadman machine for vertical adjustment be applied to the machine named in the last question without any alteration whatever?

A. I have just answered that question in my last answer; that I think they could not, though I have not the machines before me.

Q. 86. In machine 3,099 do not the main and supplementary frames both vibrate relatively to each other around a common centre, which is coincident with the axis of the pinion shaft?

A. They are capable of that operation to a certain extent.

Q. 87. Are they not capable of it to any extent necessary
105 for the vertical adjustment of the main frame for reaping or mowing?

A. These devices on machine 3,099 are capable of being adjusted to different heights in relation to each other; they are also capable of vibrating vertically during the progress of the machine in the field for either reaping or moving.

Q. 88. Do they not vibrate around a common centre?

A. When left free, as well as when being adjusted, they move in the arc of a circle upon a common centre.

Q. 89. Do they not vibrate around a common centre when they vibrate at all?

A. I have already stated, in the course of my examination, that to the full extent of their vibrations or adjustments they move in the arc of a circle upon a common centre.

Q. 90. Is not that common centre the axis of the pinion shaft?

A. I believe it is.

Q. 91. In the machine 3,099, do you not find a main frame which carries the pinion which drives the cutters?

A. The main frame carries the pinion shaft upon the projecting end of which is the pinion which communicates through a system of gearing movements to the cutters.

Q. 92. Does not the machine described in reissue 985, also carry the pinion shaft upon the projecting end of which is the pinion which communicate through a system of gearing motion to the cutters?

A. The motion to the cutters in that machine is communicated or given positively and directly to the cutter shaft and cutters, without any intermediate gearing.

Q. 93. Question repeated, and direct answer requested.

A. The pinion is upon the projecting end of the cutter shaft to which the cutters are attached, and that cutter shaft is the pinion shaft.

Q. 94. Is not that pinion shaft carried by the main frame?

A. It rests upon it.

Q. 95. In the machine 3,099, do you not find the main frame in combination with an arm or supplementary frame?

A. I find the main frame connected with a supplementary frame as I have already described.

Q. 96. Is not that supplementary frame provided with
106 an axle upon which the main wheel with its cog gearing revolves?

A. It is provided with an axle for the main wheel, its gearing being connected to the face of the main wheel, and they both necessarily revolve about that axle.

Q. 97. Is not the supplementary frame, thus provided with master wheel and gearing, so connected with the main frame as to vibrate from and around the pinion shaft in machine 3,099?

A. The main wheel and its gearing rim, or wheel which projects from it, must in the progress of the machine, rise and fall with the undulations of the ground. The supplementary frame vibrates from that centre.

Q. 98. In machine 3,099, do you not find a combination of a main frame and a supplementary frame on which is secured the master-wheel axle and a retaining arc, the whole constructed and arranged in such a manner that the main frame and supplementary frame will be held in parellel planes relatively to each other, while they are moving up and down?

A. I do.

Q. 99. In your direct examination you have attempted to give the construction which the Patent Office places upon the words "substantially as described for the purposes set forth." Are not those words appended to the original specifications, by the patentees themselves or their agents, before such specifications are filed in the Patent Office, in very many instances?

A. I have given the construction and purpose of that language, as I understand it, when applied in the Patent Office to claims. The language quoted is frequently applied by the applicant or his agent.

It is also often required by the Patent Office, according to the circumstances of the particular case, or application for patent.

Q. 100. In the present case, was it not applied by the applicant for these reissues in his original specifications?

A. If I remember rightly it was, or something of the same character of phrase.

Q. 101. When these words are used by applicants before filing their papers, do you presume to put a technical construction upon such phrases?

107 Ans. Wherever those limiting words are used, whether they are a part of the claim as first presented by the applicant, or made a part by subsequent amendments, they are understood as confining the claim to the specific part, elements, or combinations, which the claim embraces. I do not presume to give any other technical construction.

Q. 102. Do you know of any harvesting machine invented prior to the 23d of May, 1854, which contained the combination of a main frame of any description, carrying the pinion which drives the cutters with an arm or supplementary frame of any description, provided with an axle upon which the main driving wheel revolves; the main frame and supplementary frame being so connected as to vibrate around the pinion shaft as a common centre? If you know any such machine, name it.

A. I do not now recollect whether the machines of prior date to which I have referred, embraced all the distinctions or particular features recited in the question; but I believe that the functions referred to in the question, were effected by similar means prior to May 23d, 1854; and for these reasons, according to my present recollection, I required the limitations and restrictions of the specifications and claims in the reissued patents Nos. 985 and 986, when I examined and passed upon those cases.

Q. 103. If no machine invented prior to May 23d 1854, contained the combination named in my last question, except Steadman's, was not he entitled to a patent for that combination, without those words of limitation?

A. He might have been with a more definite specification, which should have included a clear and accurate recital of the operation of the machine, and the purposes for which it was constructed; but the specifications upon which these reissues were granted, do not contain, I believe, any description of the operation of the machine in the field, or the purposes for which it was constructed, except as contained in the title of the invention.

Q. 104. Do you understand that, in a patent for an improvement of part of a machine, there should be a description of the operation of the whole of it?

108 A. That will depend upon the particular case or invention.

Q. 105. Does an improvement applied to a two wheeled machine, become, in your opinion, a new invention when applied for the same purpose to a one-wheeled machine?

A. The word "improvement," if it is meant as meaning simply a

device, it might not require any invention to change it from a two-wheeled machine to a one-wheeled machine. It is my opinion, that such a change would wholly depend upon the particular case or character of the device.

Q. 106. If the device be unaltered, simply transferred from the two-wheeled to the one-wheeled machine, would that, in your opinion, make a new invention?

A. Very many devices or parts of machines may be used in common upon other machines for which they were not designed originally, without involving any invention by the act of transfer. I have no doubt there are instances, and numerous ones, where the transfer of a device from one machine to another would constitute a new combination and invention.

Q. 107. If a device be originally applied to the cutting off of the heads of clover, would it, in your opinion, constitute a new invention to apply the same to the reaping of grain or the mowing of grass?

A. If used independently, or without any additional material parts, I should regard it as but a double use of the same invention.

Re-examined by Mr. Wright:

Q. 108. Look at your answer to question 55, and state what you mean by the term function, as used in that answer.

Ans. I referred to the oscillating movement of the main frame and supplementary frame in relation to each other, but I should have added, and I think so expressed at the time, that the devices embraced in the combination were the medium through which such vibrating movement of the machine was effected by the aid of other devices.

Q. 109. In your answer to question 59, you speak of the arm marked J^2, vibrating from its pivot upon the opposite side of the main frame or box. Have you since that answer was given examined the certified model of the Steadman machine? and if so, state whether your answer in that respect was correct, if not, correct it.

109

A. I stated that such was the construction according to my memory, but I have since examined a certified model, and find the arm J^2, pivoted or vibrating upon the end of the pinion and cutter shaft, in the same manner as does the arm J on the gearing side of the frame or box.

Mr. Lee moves to rule out all evidence relating to a model not produced, and claims no certificate whether of the patent office, or any person can make a model evidence.

Q. 110. To what class of agricultural implements does the machine 3,099 belong?

A. The class known as harvesting machines, or reaping and mowing machines.

Q. 111. In your answer to question 106, had you reference exclusively to reaping and mowing machines?

(Objected to as direct and leading.)

A. I referred to and had in my mind reaping and mowing machines, or machines of that class.

H. P. K. PECK.

I, H. B. Stevens, special examiner, do hereby certify that the foregoing deposition of H. P. K. Peck, was taken before me by consent of parties, on March 11th, and 12th, to read in evidence in the cause stated in the caption of this deposition, that the said H. P. K. Peck, was by me first duly sworn to testify the truth, the whole truth, and nothing but the truth, in the above-entitled cause, that the deposition was afterwards reduced to writing by me, in the presence of said witness, and by him signed in my presence, that I am not of counsel nor otherwise interested in the event of this suit.

H. B. STEVENS.

Deposition of witnesses, taken in a cause pending in the circuit court of the United States in chancery, for the seventh circuit and southern district of Ohio, wherein William N. Whitely is complainant, and William Swayne is defendant, taken by and for said defendant to be used on the hearing of this cause before me Horace T. Cook, appointed by said court an examiner in said case, at my office in the city of Auburn, March 27th, 1863. Present for the complainant, G. M. Lee, esq., and for the defendant, D. Wright, esq.

Frederick Hatch being only sworn as hereinafter certified, deposeth as follows:

Question 1. What is your age, residence, and occupation?

Answer. 45; Holley, Orleans county, N. Y.; farmer.

Q. 2. How long have you resided in that town?

A. About thirty years.

Q. 3. Where you acquainted with Thos. S. Steadman? and if so, where did he reside in 1850, and since that time?

A. I was acquainted with him. He resided in Holley, Orleans county, in 1850. He continued to reside there till the spring of 1859. He went to near Breedsville, Michigan.

Q. 4. Do you know of his making any clover harvesters while he resided at Holley? If yea, state when and how many?

A. Yes; he made some there, about 1850. I believe he made three; the last one I think he made in 1853 and '54.

Q. 5. State how you ascertained the time; by what data?

A. I don't know positively; I have nothing to refer back to. I lived close by the shop and was often in the shop there and saw him making.

Q. 6. Was the machine he first made used in that neighborhood, and when?

A. I think he used a little and went around with it to the county fair the same year it was made; don't know what became of it; I cannot tell. He sent one east of Rochester; whether it was this one or not, I could not tell.

Q. 7. Can you tell when in reference to the making of the first machine, this one sent east of Rochester?

A. I cannot tell; my impression is it was the next year after he made the first machine.

Q. 8. When was the third machine made in reference to the making of the first?

A. I think they were made one a year for three years.

Q. 9. What was done with the third machine made by him?

A. He sent one to Michigan, but I cannot say whether that was the one or not. I think it was.

111 Q. 10. Was either the second or third machine made used in your neighborhood?

A. I think the third machine was before it was sent west; the first one he tried around, himself; the second he sent east of Rochester; the third he used around, and then sent it west.

Q. 11. Was these machines alike, or were they different in construction; if different, state wherein?

A. The first one he got up a set of knives. I am of the impression he used the revolving cutters first and then the straight knives. After that he put a rake on the machine; there was no rake on the first. He then put a wheel on the hind end to turn the machine around. I think the raising and lowering the machine was altered.

Q. 12. In regard to each these alterations, when was it first made.

A. The alteration in regard to knives made the second year. The rake was put on the same time. There was a stationary wheel on behind first, it was made to revolve the second year I think. The raising and lowering apparatus was altered the same time.

Q. 13. Can you state wherein the raising and lowering apparatus was altered from what it was in the first machine?

A. I cannot.

Q. 14. Did you see the machine in operation after these alterations were made? if so, state when and where and which machine?

A. The last one; he cut the clover seed for father.

Q. 15. State how it operated in gathering seed, whether satisfactory; if not, why not?

A. He did not like it; it did not gather the seed; it did not gather it all as he thought it would. I should judge it took about half the heads off; a great deal of it flew over the box.

Q. 16. Was any of those machines ever used for cutting or gathering anything except clover heads?

A. Not as I know of. I have never seen them.

Q. 17. Do you know that Mr. Steadman made a model of his machine; if so, when, and did it embrace the alterations named by you?

112 A. Yes; he made it before he made the first machine. I think he made another model the second year.

Q. 18. What was done by him with those models?

A. My first thought was he sent them both to Washington, and I still think so. I saw him box up the second to send when he made the 2nd machine, this was when he made the 2d machine, the one that went east of Rochester.

Q. 19. Were any of these machines used in your neighborhood or elsewhere to your knowledge except this one season?

A. No.

Q. 20. Did you ever see the machine work with the front end resting upon the ground?

I, H. B. Stevens, special examiner, do hereby certify that the foregoing deposition of H. P. K. Peck, was taken before me by consent of parties, on March 11th, and 12th, to read in evidence in the cause stated in the caption of this deposition, that the said H. P. K. Peck, was by me first duly sworn to testify the truth, the whole truth, and nothing but the truth, in the above-entitled cause, that the deposition was afterwards reduced to writing by me, in the presence of said witness, and by him signed in my presence, that I am not of counsel nor otherwise interested in the event of this suit.

H. B. STEVENS.

Deposition of witnesses, taken in a cause pending in the circuit court of the United States in chancery, for the seventh circuit and southern district of Ohio, wherein William N. Whitely is complainant, and William Swayne is defendant, taken by and for said defendant to be used on the hearing of this cause before me Horace T. Cook, appointed by said court an examiner in said case, at my office in the city of Auburn, March 27th, 1863. Present for the complainant, G. M. Lee, esq., and for the defendant, D. Wright, esq.

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A. My first thought was he sent them both to Washington, and I still think so. I saw him box up the second to send when he made the 2nd machine, this was when he made the 2d machine, the one that went east of Rochester.

Q. 19. Were any of these machines used in your neighborhood or elsewhere to your knowledge except this one season?

A. No.

Q. 20. Did you ever see the machine work with the front end resting upon the ground?

A. No, sir, I think I never did.

Q. 21. Was it capable of being so operated? if not, why not?

A. I think it was not made to run upon the ground. It was made to take the heads off clover. I cannot tell why it would not run.

Q. 22. Would it not immediately choke with the clover stalks if running on the surface of the ground?

A. I think it would.

Q. 23. At whose shop were these machines made?

A. At Mr. Steadman's shop.

Q. 24. Had the neighbors free access to the shop while these machines were being made?

A. Yes, sir.

Q. 25. Was the second machine made exhibited at the county fair, or any other public place, before it was sent east?

A. I could not say.

Q. 26. Was it sold and sent east to be used, if not, for purpose was it sent east?

A. He told me he sold it to a farmer.

(Mr. Lee objects to this last answer as inadmissible evidence.)

Q. 27. Do you know for what purpose this machine was sent west, if so, state?

A. It was sent to a farmer, west. He said he had sold it to a farmer.

(Same objections.)

Q. 28. Was this machine unloaded when in the field?

A. We had a two-horse wagon in the field, and when the box of the machine was full, it was shoveled into the wagon box.

Cross-examined by Mr. Lee:

113 Q. 29. How could you fix 1850, as the year Steadman made the first machine and model?

A. Only in thinking back; I have no dates I can refer to.

Q. 30. Did you see Steadman work the first machine, and when?

A. I see him try it in his father's lot.

Q. 31. Had you seen the first model before you saw him work the first machine?

A. Yes, sir.

Q. 32. Had you understood from him that he intended to patent the first machine?

(Counsel for def't objects to this question, that the declaration of the assignor cannot be evidence for the plaintiff.)

A. My recollection is that he did talk of it.

Q. 33. What became of this machine?

A. I cannot tell.

Q. 34. Do you know whether any part of the first machine went into the second or third?

A. I cannot tell.

Q. 35. Do you understand the use of the first machine to have been experimental?

A. I think he did not go around and cut for pay; he was using it and trying it and altered it.

Q. Did you see the second machine used at all?

A. I think not, no more than to try it.

Q. 37. Was the 2d model made before you saw the 2d machine complete?

A. I cannot say.

Q. 38. Was there any difference in the cutting apparatus of the 2d and 3d machine?

A. I think they were alike?

Q. Did you understand from Steadman that he intended to patent the 2d or 3d machine?

A. I think it was the 2d he intended to patent.

Q. 40. Do you know of either of these machines cutting for pay for any one except your father?

A. He had a man running the last machine pretty much all the fall; don't know who he cut for.

Q. 41 and 42. Did you see the machines cut, except for your father, and how much was cut then?

A. No; about 7 acres; it was cut by the acre.

Q. 43. Did you know of Steadman's making out his patent papers; if so, when?

A. I did not know.

Q. 44. Who made them models?

A. Mr. Steadman.

114 Q. 45. What was his business?

A. A carpenter and joiner.

Q. 46. Did the sides on the Steadman machine permit the box or frame to come down to the ground, or how near it?

A. I should think it would not come down to the ground; should think it would not come within 5 or 6 inches; should think they were all alike in that respect.

FREDERICK HATCH.

Austin Whittlesey, being duly sworn, as hereinafter certified, deposeth as follows:

Q. 1. What is your age, residence, and occupation?

A. 57; Medina, Orleans county; mechanic.

Q. 2. Did you ever reside in the village of Union Springs, co. of Cayuga, and State of New York? If so, when did you leave there, and what was your business while there?

A. I resided there in 1841, and left there in 1854; worked in a boat-yard nearly four years. In Oct.. 1845, I went into a plough shop and worked there till it burnt up in 1854.

Q. 3. Was there a gang plough made at that shop while you worked there; if so, when and by whom?

A. A good many were made while I worked there; I made a good many myself.

Q. 4. Were there devices contained in that machine or gang plow, whereby the wheels and plows could be raised and lowered independently of each other?

(Mr. Lee objects to the question, as direct.)

A. Not of these I've been speaking of, only two were made in that way.

Q. 5. When was the first of those made?

A. In 1850.

Q. 6. Was it made publicly or secretly? and in what shop, and what was done with it?

A. It was not made secretly, no more than other plows; it was made at Anthony's shop, in Union Springs. The first one was an experiment machine; it was made rough and torn to pieces.

Q. 7. Was it tried; and if so, when, where, and by whom, and i whose presence?

A. I cannot tell in whose presence; tried it once myself in my own lot, in the garden, in Union Springs; cannot tell who was
115 present.

Q. 8. What was the object of that trial?

A. To see how it balanced on two wheels, and to guage its depth in the ground, by elevation and depression.

Q. 9. Was or was not that trial to test this raising and lowering apparatus?

(Same objections.)

A. It was.

Q. 10. When did you make the next plow containing those devices?

A. It was previous to 1853.

Q. 11. Who made the patterns from which the castings were made?

Ans. I made the patterns for the device for the elevation and depression.

Q. 12. What did you do with them, and what became of them?

A. I left them at the shop, and I suppose they were burnt up with the shop in Sept., 1854.

Q. 13. Was this plow used in the county of Cayuga; and if so, when and where, and by whom?

A. I cannot answer, not to my knowledge.

Q. 14. What became of it?

A. It was sent to Medina, Orleans co., to Geo. T. Anthony, dealer in agricultural implements.

Q. 15. Did you ever see it afterwards; and if so, when and where?

A. I saw it in Geo. T. Anthony's store at Medina. I cannot fix the date; two or three years after it was sent there, I should think.

Q. 16. For what purpose was it there; whether on sale, or exhibition, or both?

A. It was there on sale, I expect, I don't know.

Q. 17. Was it where the public had free access to, and could examine it?

A. When I first saw it there it was in his upper back room, the next time in his back upper room.

Q. 18. Was it amongst other agricultural implements which Mr. Anthony had on sale?

A. The first time I saw it, it was amongst his plows; the last time not.

Q. 19. When was the last time you saw it?

A. Some four years ago, I think it was.

Q. 20. Describe the apparatus which is used for lowering and raising that machine?

A. There were two wheels, one on each side of the frame that contained the plows. The axles were fastened to a plate
116 which was 13 or 14 inches from the centre from which they worked. The forward part of that plate to which the axles were fastened worked in a groove of a circular form, made of two pieces of cast iron bolted together and formed a groove.

Q. 21. What was the object of the groove, and the object of the shape of it?

A. The object of the groove was to sustain the plate, sidewise, which sustained the wheels. The object of making it circular was to keep the segment plate that held the wheel from falling out when moving up and down.

Q. 22. Was the object of this circular form that the axle should be at all times the same distance from the centre upon which it vibrated?

(Same objection.)

A. The circular form was to keep the front edge of the plate in the groove; the front edge of the plate was cast to correspond with the groove, &c.

Q. 23. State how many plows were used; upon what the plows were fastened?

A. There were four plows, each one fastened to a stick of timber running fore and aft.

Q. 24. Were those sticks of timber framed or fastened together? if so, state how and in what position.

A. They were framed together; they were framed eight inches apart from center to center; a piece framed across the forward end or head; the hind end was fastened by a piece of timber either bolted or framed in, and same distance apart.

Q. 25. State whether the plate you have mentioned, upon which the wheel axle was cast, was fastened to the frame which contained the plows? and if so, in what manner and in what position.

A. It was framed by a bolt, so it could roll on it; the plate set up edgewise.

Q. 26. At what part of this plate did that bolt pass through?

A. At the angle where the handle rose up to take hold of, at the centre of the circle of that plate which held the axle, the bolt fastened to the outside timber of the frame which held the plows about the centre up and down, but do not remember the position
117 fore and aft.

Q. 27. In this groove were there any devices by which the wheel could be kept at any desired height, with reference to the frame which held the plows? If so, state and describe particularly.

A. There was devices in the two side plates that formed the groove, with teeth or cogs on the inner circle of the plates forming

the groove. The wheel plates were held by an iron, which was drawn out by the hand, and crowded in by a spiral spring.

Q. 28. What device was used for raising and lowering the wheels, and how was it used?

A. The wheel plate was cast running back and up, forming a lever to raise that wheel plate.

Q. 29. When you desired to raise the wheels, state how the operation was performed.

A. The iron that held it to its place in the groove run back and up with a lever or handle loose all the way, clasped the lever and handle with the hand and push down on the lever, and that raised the whole?

Cross-examined by Mr. Lee:

Q. 30. Have you any knowledge where this plow is now?

A. No, sir.

AUSTIN WHITTLESEY.

I hereby certify that the witnesses above named, viz: Frederick Hatch and Austin Whittlesey, were, by me, first duly sworn to testify the truth, the whole truth, and nothing but the truth; that their depositions were reduced to writing by me, and each witness subscribed his name to his deposition in my presence, and he swore to the same, this 27th day of March, 1863.

HORACE T. COOK,
Examiner.

C. C. U. S., southern dist. of Ohio, in equity.

WILLIAM N. WHITELY *ag't* WILLIAM SWAYNE.

Testimony taken under the 67th rule of the Supreme Court of the United States on the part of defendant, Thursday, July 2, 1863.

Present: David Wright, esq., counsel for defendant; Samuel S. Fisher, esq., counsel for complainant.

Edward S. Renwick, being called and sworn on part of defendant, deposes and says:

Question 1. What is your name, age, residence, and occupation?

118 A. Edward S. Renwick; 40 years of age and upwards; I reside in New York; my occupation is that of solicitor of patents and expert in patent causes.

Q. 2. Have you ever been examined as an expert witness in cases pending in courts of the United States wherein patents for improvements in reapers were in question?

A. I have a number of times.

Q. 3. State your opportunities, if any, of becoming acquainted with reaping and mowing machines, and the patents for improvements therein.

A. I have examined a large number of reaping and mowing machines, and have frequently observed their operation in the field. I have been called upon frequently to examine the state of the art of reaping and mowing by machinery. I have also prepared a number of applications for patents for reaping and mowing machines, and have been called upon to testify in a number of patent cases involving the construction and operation of reaping and mowing machines.

(Counsel for defendant puts in as evidence the following documentary evidence:)

Exhibit No. 1.

1st. Copy from the record of the Patent Office of letters patent granted to Thomas S. Steadman, May 23, 1854, said patent being the only one granted to said Steadman during the year 1854, for an improvement in clover harvester, and which is marked defendant's Exhibit, No. 1:

The United States Patent Office to all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy from the records of this office of letters patent granted Thomas S. Steadman, May 23d, 1854, said patents being the only one granted Steadman during the year 1854, for an improvement in clover harvesters.

In testimony whereof, I, D. P. Holloway, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this twenty-ninth day of January, in the year of our Lord one thousand eight hundred and sixty-two, and of the independence of the United States the eighty-sixth.

D. P. HOLLOWAY.

No. 10,967.

THE UNITED STATES OF AMERICA.

To all to whom these letters patent shall come:

Whereas, Thos. S. Steadman, of Murray, New York, has alleged that he has invented a new and useful improvement in clover harvesters, which, he states, has not been known or used before
119 his application, has made oath that he is a citizen of the United States; that he does verily believe that he is the original and first inventor or discoverer of the said improvement, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the Treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose. These are, therefore, to

grant, according to law, to the said Thomas S. Steadman, his heirs, administrators, or assigns, for the term of fourteen years from the twenty-third day of May, one thousand eight hundred and fifty-four, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said Steadman in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof, I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand, at the city of Washington, this twenty-third day of May, in the year of our Lord one thousand eight hundred and fifty-four, and of the independence of the United States of America the seventy-eighth.

Countersigned and sealed with the seal of the Patent Office.

[L. S.] ROBERT McCLELLAND,
Secretary of the Interior.

C. MASON,
Commissioner of Patents.

The schedule referred to in these letters patent, and making part of the same.

[Here follows diagram, marked page 119.]

To all whom it may concern:

Be it known that I, Thomas S. Steadman, of the town of Murray, county of Orleans, State of New York, have invented certain new and useful improvements in clover and grass-seed harvesters, and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, in which figure 1 is a perspective view of the machine; figure 2 an elevation of the rear end of the machine; figure 3 a view of the comb; figure 4 a view of the cutters and rake; figure 5 a view of the arms and levers. The box A is five feet wide, ten feet long, and one and a half feet high; may be more or less, and it is placed on three wheels. The wheels B and C, near the front end of the box, are three feet in diameter. The wheel D, seen in figure 2, which carries the rear end of the box, is one and a half feet in diameter, and is attached like a castor, that it may adjust itself to the motion of the machine when turning. The front end of the box (A) is open, and has a comb extending across the width of it, which is attached to the bottom. This comb is formed of the teeth e e e e, twenty in number, or more or less, according to the width of the machine. These teeth are sixteen inches long, and one and a half inches broad, and made of common spring steel 3-16 inch thick, and are curved downwards at the heels, to suit the circle described by the knife, and the points are bent downwards, to take up grass or clover that is laid. Over this comb is placed the crank shaft, (E,) which has its bearings on the upper edges of the side pieces of the

120

box A. The cranks F and G are six or eight inches long; to these cranks the front ends of the pieces H and I are attached, which are of wood, and are four or five feet in length. The rear ends of these pieces are attached to the lower ends of the swinging arms (J J;) the upper ends of these arms are attached to the upper edges
121 of the side pieces of the box A by bolts, and when the machine is in motion they swing back and forth. A bar of wood or iron is attached to the under side of the front ends of the pieces H and I, which the cutters f f f (ten in number) are attached. These cutters are angled on both sides, being two inches wide at the heels, or where they are attached to the cutter-bar, and $1\frac{1}{4}$ inches at the point, and are six or seven inches long. These cutters are arranged, the center of each cutter over the center of every alternate tooth in the comb; hence there are only half as many cutters as there teeth in the comb, and every cutter cuts over two spaces between the comb teeth. A straight cutter may be used in some cutting, but it is believed not as well. The pinion (O) is attached to the crank-shaft E; the cog-wheel P is attached to the driving-wheel B; the wheel P and pinion O are connected by the intermediate cog-wheel R, which is inserted in order to give the cutters a backward motion as they pass over the comb. The crank-shaft E has about six motions to one revolution of the driving-wheel. Thus, as the machine advances the cutters revolve with the cranks F and G, and pass over the comb with a rapid motion, and cut whatever may be between the comb teeth and throw it back into the box A. In order to move the cut seed further away from the cutters, and to prevent the cutters from choking, the rake S is used, which is attached to the pieces H and I, about 16 or 18 inches back of the cutters, and the seed that is cut and thrown back by the cutters at one motion, is taken by the rake at the next motion and thrown still further back; and as many of these rakes may be used as may be desired. In order that these machines be adapted to the varied circumstances under which they have to be used, it is necessary that they be so
122 constructed that they can be conveniently raised and lowered, even when in motion. To provide for this the axles of the wheels B and C, which are of cast iron, have each an arm, L, fig. 5, extending forward along side the box A up to the shaft E, and have slots on the front ends to receive the shaft E, and segment shaped arms on the rear ends. These segments have tongues or lips that work under the flanges M, that are made fast to the box A. Thus the axles are left to play freely up and down on the sides of the box A, and to hold them down and to keep the box up from the ground, the lever U, and one like unto it on the opposite side, are used, which are attached to the box by bolts at I, fig. 1, and the front ends rest on the axles of the wheels B and C. To the rear ends of these levers there are cords attached, which connect them to the pulleys V and W. These pulleys are attached to shafts that extend to the plate X, and are operated by the levers y y, and when it is desired to raise the machine, for instance, at B, the operator takes hold of the lever y and pulls it back; and if he desires to keep the machine

up, he puts a pin over the lever into the plate X, and the other side is raised in like manner. By this arrangement either side is raised, or both sides raised and lowered to suit circumstances, even when the machine is in motion, and the wheels being left free to play down from the levers when the box is raised, the wheels keep to the ground when the box passes over stones or other obstructions, which is an important feature in the operation of this machine. In order that the three cog-wheels be always kept in place, the intermediate wheel R has its axis attached to the arm L of the axle of the wheel B, that extends up to the shafts E. The wheel R is removed
123 from its place when it is desired to throw the cutters out of gear. The machine is drawn by one horse, attached by thills at the front end. What I claim as my invention, and desire to secure by letters patent, is—

First. The arrangement of the cutters in combination with the comb, operating in the manner and for the purposes described.

2d. The rake S, in combination with the cutters, as described.

T. S. STEADMAN.

Witnesses: E. WILCOX.
ROYAL S. SALISBURY.

Exhibit No. 2.

The United States Patent Office to all persons to whom these presents shall come, greeting:

This is to certify, that the annexed are true fac simile copies, from the files of this office, of certain papers contained in the file in the matter of the reissued letters patent granted W. N. Whitely, jr., assignee of T. S. Steadman, June 19th, 1860, No. 985.

In testimony whereof, I, D. P. Holloway, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this twentieth day of January, in the year of our Lord one thousand eight hundred and sixty-two, and of the independence of the United States the eighty-sixth.

D. P. HOLLOWAY.

To all whom it may concern:

Be it known, that Thomas S. Steadman, of Murray, in the county of Orleans, and State of New York, invented certain new and useful improvements in clover and grass-seed harvesters, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, which make part of this specification:

This invention relates to that kind of machine in which the heigh of the cutting apparatus (from the ground) is varied by changing the relative positions of the main frame and master-wheel axle (or shaft,) and consists in connecting the main frame or box of the ma-
124 chine with the master-wheel axle by means of an arm or supplementary frame on which the master-wheel axle is formed or fastened, and which arm is arranged with the main frame or box

and its pinion-shaft in such a manner that said main frame may be raised and lowered, and held at different heights relatively to the master-wheel axle, and so that the said main frame and supplementary frame shall both vibrate relatively to each other around a common center, which is coinsident with the axis of the pinion-shaft. To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation by referring to letters to the accompanying drawing, which forms part of this specification, and which illustrate a machine embracing my improvement or invention.

Figure 1 represents a side elevation of the machine.

Figure 2 represents a front elevation.

Figure 3 represents a cross section at the line x x of figure 1.

Figure 4 represents a prespective view of the arm or supplementary frame.

Figure 5 represents a perspective view of the guide plate of the supplementary frame.

Figure 6 represents in detail view the supplementary frame and gear.

Figure 7 shows a cross section at y y of figure 4: and

Figure 8 is a cross section at the line z z, of figure 5.

Similar letters represent the same part in the different views. (A) represents the main frame or box of the machine, which is furnished near the center of its rear end with a supporting castor-wheel, (E,) and near its forward end the wheels (B) and (B^2) are placed, as shown in the drawing, all of which serves to support the main frame or box (A) when the forward end of the machine is not running on the ground, and one of which (B) is the master or main driving-wheel of the machine. (b) is its axle or shaft. (c) is the pinion-shaft. (J) is the arm or supplementary frame on which the master-wheel and gears are hung, and which is arranged on the end of the pinion-shaft (C.) The wheel (B^2) is hung on a plate (J^2) similar to arm (J,) and which also moves around the end of the shaft (C.) The arm (J) and (J^2) are guided at their moveable ends by guide plates (r) fastened to the sides of the box (A,) and are retained in any desired relative position of the box (A) by means of levers (C) (C^2.) (K) is the finger-bar, and (i) are the fingers, and (x) are the cutters, the bar (r) of which is operated by the crank (C^2) of the pinion-shaft, through the medium of the bars (a.) The levers (C) and (C^2) not only hold the frame (A) at any desired elevation relatively to the axle of the side wheels, but also shifts the frame in relation to said wheel's axles. (F) is the rake, and (u) the shafts which the team is engaged with the apparatus. The levers (C) and (C^2) are operated by cords, (o) (o^2,) which pass over pulleys (H) (H) on the outer ends of the shafts (h) (h^2,) which shafts are furnished with hand levers, (b,) which are checked or chocked by pins (w) in the holes of the plate or disc (P.)

Since many of those parts above alluded to, which are in anywise different from the ordinary practice, constitutes the subjects of other applications filed simultaneously with this, in which they will be par-

ticularly and fully explained, I shall here only describe fully that feature of the machine which constitutes the subject of this application. It will be seen by reference to the drawing, that the arm (J) is formed with a hole (y) at one end to accommodate the shaft (c,) and with a curved guide flange (f) at the other end, to work in the groove formed between the projecting lips (r) of the guide plate (r,) and the side of the box (A) to which the guide plate is fastened; and said arm (J) is furnished with a projecting stud (t) which constitute the axle of the master-wheel (B,) and with a stud, (s^2,) for the
126 intermediate gear (M,) which mashes on one side into the main driving gear(D,)and on the opposite into the pinion (S) on the end of the shaft (c,) which drives the cutting apparatus. It will be understood that the axis of the gears, except that of pinion (S.) are arranged on a single piece, (J,) and that the latter, turning only on the pinion-shaft, (C,) may be said to virtually hold in itself all the gearing, and it will be readily comprehended that when the centers of the gears exist in one plate or bar thus, the gears will always remain in perfect adjustment with each other. And it will be seen that while this important desideratum is attained by my improved method of construction, the shifting of the main frame relatively to the master-wheel axle may be more readily accomplished than heretofore, and the machine is also rendered more simple than when the bearing and axle, or axle alone, of the master-wheel had to be shifted. The method of changing the relative positions of the main frame and master-wheel axle, and retaining them in any desired position by means of the levers (C) (C^2,) cords (o) (o^2,) and shafts (h) (h^2) and hand levers, constitute the subject of another application, in which said method will be formed, fully explained, and need not be reiterated in the application. It will be understood that my invention may be subjected to various modifications of the embodyment, illustrated without departing from its spirit. The gear (M) may be taken off of its shaft or stud when desired, when the machine can run along without driving the cutting apparatus. What is claimed as the invention of the said Thomas S. Steadman, and is desired to be secured by letters patent, is the main frame or box (A) which
127 carries the pinion, which drives the cutters, in combination with the arm or supplementary frame, J, provided with axle, (t,) and the main wheel and gearing, substantially as described for the purposes specified. I also claim the arm or supplementary frame, in combination with the master-wheel and gearing, when said arm or supplementary frame is so connected with the main frame as to vibrate from and around the pinion-shaft, substantially as shown and described for the purposes set forth.

W. N. WHITELEY, JR.,
By his agent, ANDREW WHITELY.

JUNE 4, 1860.

To the Commissioner of Patents.

SIR: I hereby amend my specification, division A, of my application for a reissue of a patent granted T. S. Steadman, on the 23d of

May, 1854, by erasing from the same all after the name W. N. Whitely, jr., at the end of the petition to the end of the claim, and substituting instead thereof the accompanying amendment.

The previous amendment and specification cancelled.

ANDREW WHITELY,
Agent for W. N. Whitely, Jr.

To the Commissioner of Patents:

The petition of W. N. Whitely, jr., of Springfield, in the county of Clark, and State of Ohio, respectfully represents—

That letters patent of the United States were granted on the (23d) twenty-third day of May, 1854, to T. S. Steadman, for improvements in clover and grass-seed harvesters; that said letters patent were on the twenty-seventh day of December, 1859, assigned, sold and set over unto your petitioner, who is now, by virtue of the said assignment, vested with sole and legal right, title, and interest to and in said letters patent.

And your petitioner further represents, that the said letters patent granted to the said T. S. Steadman, and assigned to your petitioner, is inoperative and invalid, by reason of an insufficient and defective specification, which defect has arisen through inadvertence
128 and mistake, and without fraudulent design on the part of the original patentee, as I verily believe.

Your petitioner therefore prays, that he may be allowed to surrender the said letters patent, and requests that three new letters patents may issue to him for separate parts of the said invention for the residue of the period for which the original patent was granted, under the amended specifications herewith presented, he having paid into the Treasury of the United States the sum of fifteen dollars for the first application, and the sum of thirty dollars for each of the other applications, agreeably to the act of Congress in that case made and provided.

W. N. WHITELY, JR.

CITY OF SPRINGFIELD,
County of Clark, and State of Ohio, ss:

On this, 27th day of March, 1860, before me, the subscriber, a justice of the peace in and for the city and county above named, personally appeared the above-named W. N. Whitely, jr., and made solemn oath that he verily believes, that by reason of an insufficient or defective specification the aforesaid letters patent, which was granted to T. S. Steadman, and assigned to him, is not fully valid and available to him, and that the said error has arisen from inadvertence, mistake, or accident, and without any fraudulent or deceptive intention, to the best of his knowledge or belief.

REUBEN MILLER,
Justice of the Peace of Springfield Township,
Clark County, Ohio.

U. S. PATENT OFFICE,
April 19th, 1860.

SIR: The specifications in your applications "A," "B," and "C," for the reissue of your patents, No. 10,967, are herewith returned for amendment. The descriptions enlarge the scope of the invention so as to embrace other distinct improvements invented and subsequently patented by others, and they are unnecessarily prolix. The
129 invention is entitled an improvement in "clover and grass seed harvesters," and the machine is so constructed and organized as to be incapable of performing the work of cutting the stalks of grass and grain as a harvesting machine. This incapacity arises from the manner of operating the cutter, and the want of means for discharging the crops cut from the box or receptacle to the ground. That part of the box or frame to which the fingers are attached must be described as a fixed part of the box and governed in its movements, not by the operation of a single wheel or lever, but as being supported upon three carrying wheels, all of which are necessary to the integrity and operating capacity of the machine. In other words, the title and the description cannot be enlarged or changed to involve other machines, but must be strictly limited to the construction as found in the original record. The office cannot suggest the necessary amendments, in view of this apparent enlargement of the scope of the invention.

Respectfully,

T. S. STEADMAN, *Assor.*

To W. N. Whitely, jr., care of J. N. McIntire, Washington, D. C.

Fac-simile copies from the records of the Patent Office of certain papers contained in the file in the matter of reissued letters patent granted to W. A. Whiteley, jr., assignee of T. S. Steadman, June 19th, 1860, No. 986, and which is marked defendant's Exhibit No. 3.

Exhibit No. 3.

THE U. STATES PATENT OFFICE.

To all persons to whom these presents shall come, greeting:

This is to certify, that the annexed are true fac-simile copies from the files of this office of certain papers contained in the file in the matter of reissued letters patent granted W. A. Whitely, jr., assignee of T. S. Steadman, June 19, 1860, No. 986.

In testimony whereof, I, D. P. Holloway, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed,
130 this twentieth day of January, in the year of our Lord one thousand eight hundred and sixty-two, and of the independence of the United States the eighty-sixth.

D. P. HOLLOWAY.

To the Commissioner of Patents:

The petition of W. N. Whiteley, jr., of Springfield, in the county of Clark, and State of Ohio, respectfully represents:

131 That letters patent of the United States were granted, on the (23d) twenty-third day of May, 1854, to T. S. Steadman, for improvements in clover and grass-seed harvesters, that the said letters patent were, on the twenty-seventh day of Dec'r, 1859, assigned, sold, and set over unto your petitioner, who is now, by virtue of the said assignment, vested with sole and legal right, title, and interest to and in said letters patent.

And your petitioner further represents, that the said letters patent granted to the said T. S. Steadman, and assigned to your petitioner, is inoperative and invalid by reason of an insufficient and defective specification, which defect has arisen through inadvertence and mistake, and without any fraudulent design on the part of the original patentee, as I verily believe.

Your petitioner, therefore, prays that he may be allowed to surrender the said letters patent, and requests that three new letters patents may issue to him for separate parts of the same invention, for the residue of the period for which the original patent was granted, under the amended specifications herewith presented, he having paid into the treasury of the United States the sum of fifteen dollars for the first application, and the sum of thirty dollars for each of the other applications, agreeably to the act of Congress in that case made and provided.

W. N. WHITELEY, JR.

In testimony whereof, I have hereunto set my hand and affixed my seal this 27th day of March, 1860.

[SEAL.] W. N. WHITELEY, JR.

Witnesseth—
SOL. J. HOUCK.
EMANUEL RIEGEL.

CITY OF SPRINGFIELD,
County of Clark, and State of Ohio, ss:

On this 27th day of March, 1860, before me, the subscriber, a justice of the peace in and for the city and county above-named, personally appeared the above-named W. N. Whiteley, jr., and made solemn oath that he verily believes, that by reason of an insufficient or defective specification, the aforesaid letters patent which was granted to T. S. Steadman, and assigned to him, is not fully
132 valid and available to him; and that the said error has arisen from inadvertence, accident or mistake, and without any fraudulent or deceptive intention, to the best of his knowledge and belief.

REUBEN MILLER,
Justice of the Peace of Springfield township, Clark Co., Ohio.

XENIA, OHIO, *June 15th*, 1860.

To the Commissioner of Patents:

SIR: You will please forward to William N. Whitely, jr., at Springfield, the patents ordered to issue to him on the 19th, as assignee of Thomas S. Steadman.

Resp't'ly yours,
WM. N. WHITELY, JR.
By ANDREW WHITELEY,
his Agent.

To all whom it may concern:

Be it known, that Thomas S. Steadman, of Murray, in the county of Orleans, and State of New York, invented certain new and useful improvements in clover and grass-seed harvesters, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, which make part of this specification: This invention relates to that description of machine in which the main frame carrying the cutting apparatus, and the master wheel which drives the cutters, are capable of moving up or down, each independently of the others, as the machine moves over the surface of the ground, so that the cutting apparatus may adopt itself to the unevenness of the ground over which the machine travels, while at the same time the master wheel, the axle of which is not located in the same vertical plane that passes through the line of bearing of the cutting apparatus on the ground, may likewise follow the undulations of the ground's surface. The invention which constitutes the subject of this application consists in so connecting the main frame or box of the machine, to which the fingers are attached, to the arm or supplementary frame on which the master wheel axle is formed or fastened, that each shall be kept always parallel with the others, while each is allowed to move up and down independently of the other, and the gearing carried by each frame kept constantly in connection during all their movements, as will be hereinafter fully described. To enable those skilled in the art to make and use
133 my invention, I will proceed to describe the method in which I have practiced the same, referring by letters to the accompanying drawings forming part of this specification, and in which figure 1, represents a side elevation of the machine; figure 2, represents a front elevation; figure 3, represents a cross section at the line x x, of figure 1; figure 4, represents a perspective view of the arm or supplementary frame; figure 5, represents a perspective view of the guide plate of the arm or supplementary frame; figure 6, represents in detail views the arm or supplementary frame and gears; figure 7, shows a cross section at y y, figure 4; figure 8, is a cross section at the line z z, of figure 5. Similar letters denote the same parts in the different views. A, represents the main frame or box of the machine; B, is a castor wheel near its centre and rear end, on which the rear end rests for permitting the machine to turn freely; C and D, are two larger wheels which serve to support the main frame or box when the guard finger bar E (which is the front bar

of the box A) is not resting on the ground and one of which, C, is the master or main driving wheel of the machine; G, in its axle formed on, or secured to and near the rear end of the arm or supplementary frame F, whose forward and vibrating end is hung on the projecting end of the pinion shaft a, (which is confined to the main frame or box A, by its boxes b and b^1) and these held by a flange, plate d, which permits it to be slipped on and off of said shaft when turned on it. The wheel D is hung on an arm or supplementary frame G, similarly constructed, hung, and retained as that of F. These arms, the pinion shaft, and main frame vibrate from the axles of the wheels C and D, as fixed centres of motion, while they and the main frame vibrate from and around the pinion shaft on the main frame or box as their centres, while the main frame or box rises toward or lowers from the axles of the ground wheels C and D. These and the ends of the arms F and G are held parallel with the main frame A, and guided in moving up and down
134 by the side of the frame or box by guide plates H and I, fastened to the main frame or box which forms, with the frame, a groove in which each arm is held as the main frame raises and lowers, while the fingers thereto attached pass over uneven surfaces. J and J^2 are the levers by which the vibrations of the main frame are limited, and that limit varied, as will be seen by reference to figure 3; e and f are cords by which the levers J and J^1 are operated, which pass over pulleys g and h, on the outer ends of windlass shafts i and J, which shafts are furnished with hand levers *h* and *l*, which are checked or chocked by pins *m* and *n*, placed in such of the holes in the plate or disc *o* as will give the desired limit of vibration to the main frame and finger bar thereto attached, and vary said limit of vibration as shown at figure 1 of the drawings; L is the intermediate wheel, and P is its axle formed on or secured to the arm or supplementary frame F. This intermediate wheel gears with the master wheel gear M and the pinion *r*, for driving the cutters and also giving them the right motion, and is placed loosely on its shaft *a*, that it may readily be removed when not desired for driving the cutters, as is the case when driving the machine to and from the barn to unload it, &c. E, is the guard-finger bar of the box A; *S* are the guard fingers, and *t* are the cranks on the pinion shaft *a*, (confined by its boxes *b* and b^1.) The bars u and u^1, which are hinged at their rear ends to swinging bars v; v^1, are pivoted to the upper edges of the frames *A;* T, is the cutter bar attached to the bars u and u^1; X, are the cutters; Q is the rake; R, are the shafts or thils, between which the animal that draws the machine is hitched. These are hinged to the front of the main frame or box for permitting it and the master wheel to each have an independent action to the ground. As most of these latter mentioned parts form the subject of applications A and C, no particular description of their operation need be here given. It will be observed that the arm, or supplementary frame
135 F, on which the master wheel axle C is formed or secured, is made with a curved portion r, see figures 3, 4, and 6, which is curved on the arc of a circle, the centers of which lies in the center

of the hole w, into which the pinion shaft *a* fits, and that this curved portion *r* is formed with a rebate or rabit *W* (see figs. 3 and 4) to accommodate the lip of the retaining strap or plate H, which retaining plate is screwed to the side of the main frame or box of the machine (as seen at figures 1 and 3.) It will be readily seen, that when the main frame A, and master wheel axle, and of the arm or supplementary frame F, are connected as above described, that they will each maintain a parallel position relatively to the others, while one raises and the other lowers. The master wheel will of course always follow the surface of the ground unless its depressions are of less curvature than that of the wheel periphery. It will also be seen that the lever when in its position, shown in red, limits the vibration of the main frame A, or box carrying the fingers and cutters, and the arm or supplementary frame F, and when moved to that in black varies the limit of said vibration. It will be understood that the arm or supplementary frame G is in all respects connected with the main frame A, in the same manner as that of F. Thus it will be understood that I do not wish to limit my claim of invention to the precise manner of constructing the parts such as I have adopted and found to work well. What is claimed as the invention of the said Thomas S. Steadman, and is desired to be secured by letters patent, is: In combination with the main frame or box A, and arm or supplementary frame F, on which is formed or secured the master wheel axle, the employment of a retaining arc H, or its equivalent, the whole constructed and arranged in such a manner that the main frame or box and arm or supplementary frame, with its master-wheel axle, will be held in parallel planes relatively to each other while they are moving up and down, substantially as and for the purposes herein set forth.

W. N. WHITELEY, JR.,
By ANDREW WHITELEY, *his Agent*.

136 WASHINGTON CITY, D. C., *June 4th*, 1860.

To the Commissioner of Patents:

SIR: I hereby amend my specification, division B, of my application for a reissue of a patent granted T. S. Steadman, on the 23d of May, 1854, by erasing from the same all between the name W. N. Whiteley, jr., at the end of the petition to the word In, in the 3d line from the end of the specification, and inserting instead thereof the herewith accompanying amendment:

ANDREW WHITELEY, *Agent*,
For W. N. WHITELEY, JR.

4th. Copy from the files of the Patent Office of the file wrapper and contents thereof in the matter of the letters patent granted to Thomas S. Steadman, May 23d, 1854, and which is marked defendant's exhibit No 4.

Exhibit No. 4.

THE U. STATES PATENT OFFICE.

To all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy from the files of this office of the file wrapper, and contents thereof, in the matter of the letters patent granted Thomas S. Steadman, May 23d, 1854.

In testimony whereof I, D. P. Holloway, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this sixth day of March, in the year of our Lord one thousand eight hundred and sixty-three, and of the independence of the United States the eighty-seventh.

D. P. HOLLOWAY.

To the Commissioner of Patents:

The petition of Thomas S. Steadman, of the town of Murray, county of Orleans, State of New York, respectfully represents: That your petitioner has invented new and useful improvements in the machine for harvesting clover and grass seed, which he verily believes has not been known or used prior to the invention thereof by your petitioner. He therefore prays that letters patent of the United States may be granted to him therefore, vesting in him and his legal representatives the exclusive right to the same, upon the terms and conditions expressed in the act of Congress in that case made and provided; he having paid thirty dollars into the treasury, and complied with the other provisions of the said act.

THOMAS S. STEADMAN.

To all whom it may concern:

Be it known that I, Thomas S. Steadman, of the town of Murray, county of Orleans, State of New York, have invented certain
137 new and useful improvements in clover and grass-seed harvesters, and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, in which figure 1 is a perspective view of the machine; figure 2 an elevation of the rear end of the machine; figure 3 a view of the comb; figure 4 a view of the cutter and rake; figure 5 a view of the arms and levers. The box A is five feet wide, ten feet long, and one and a half feet high, may be more or less; and it is placed on three wheels. The wheels B and C, near the front end of the box, are three feet in diameter. The wheel D, seen in in fig. 2, which carries the rear end of the box, is one and a half feet diameter, and is attached like a castor that it may adjust itself to the motion of the machine when turning. The front end of the box (A) is open and has a comb extending across the width of it which is attached to the bottom. This comb is formed of the teeth e e e e, twenty in number, or more or less, according to the width of the machine; these teeth are sixteen inches long, one and a half inches

broad, and made of common spring steel $\frac{3}{16}$ inch thick, and are curved downwards at the heels to suit the circle described by the knife, and the points are bent downwards to rake up grass or clover that is laid. Over this comb is placed the crank shaft (E) which has its bearings on the upper edges of the side pieces of the box A. The cranks F and G are six or eight inches long; to these cranks the front ends of the pieces H and I are attached, which are of wood and are four or five feet in length. The rear ends of these pieces are attached to the lower ends of the swinging arms (J, J;) the upper ends of these arms are attached to the upper edges of the side pieces of the box A by bolts, and when the machine is in motion they swing back and forth. A bar of wood or iron is attached to the under side of the front ends of the pieces H and I, to which the cutters J J J (ten in number) are attached. These cutters are angled on both sides, being two inches wide at the heels, or where they are attached to the cutter bar, and $\frac{1}{4}$ inches at the point, and are six or seven
138 inches long. These cutters are arranged, the centre of each cutter over the centre of every alternate tooth in the comb, hence there are only half as many cutters as there teeth in the comb, and every cutter cuts over two spaces between the comb teeth. A straight cutter may be used in some cutting, but it is believed not as well. The pinion (o) is attached to the crank-shaft E.; the cog-wheel P is attached to the driving wheel B; the wheel P and pinion o are connected by the intermediate cog-wheel R, which is inserted in order to give the cutter a backward motion as they pass over the comb. The crank shaft E has about six motions to one revolution of the driving wheel. Thus as the machine advances the cutters revolve with the crank F and G, and pass over the comb with a rapid motion, and cut whatever may be between the comb-teeth, and throw it back into the box A. In order to move the cut seed further away from the cutters, and to prevent the cutters from choaking, the rakes S is used, which is attached to the pieces H and I, about 16 or 18 inches back of the cutters, and the seed that is cut and thrown back by the cutters at one motion is taken by the rake at the next motion and thrown still further back, and as many of these rakes may be used as may be desired. In order that these machines be adapted to the varied circumstances under which they have to be used, it is necessary that they be so constructed that they can be conveniently raised and lowered even when in motion. To provide for this, the axles of the wheels B and C, which are of cast iron, have each an arm L, fig. 5, extending forwards alongside the box A up to the shaft E, and have slots on the front ends to receive the shaft E, and segment-shaped arms on the rear ends. These segments have tongues or lips that work under the flanges M, that are made fast to the box A. Thus the axles are left to play freely up and down on the sides of the box A. And to hold them down and to keep the box up from the ground, the lever U, and one like unto it on the opposite side, are used, which are attached to the box by bolts at fig.
i; and the front ends rest on the axles of the wheels B and
139 C. To the rear ends of these levers there are cords attached.

which connect them to the pulleys V W. These pulleys are attached to shafts that extend to the plate X, and are operated by the levers y y. And when it is desired to raise the machine, for instance at B, the operator takes hold of the lever y, and pulls it back, and if he desires to keep the machine up, he puts a pin over the lever into the plate *a*, and the other side is raised in like manner. By this arrangement either side is raised, or both sides raised and lowered to suit circumstances, even when the machine is in motion, and the wheel being left free to play down from the levers when the box is raised; the wheels keep to the ground when the box passes over stones or other obstacles, which is an important feature in the operation of this machine. In order that the three cog wheels be always kept in place, the intermediate wheel R has its axis attached to the arm L axle of the wheel B, that extends up to the shaft E. The wheel R is removed from its place when it is desired to throw the cutters out of gear. The machine is drawn by one horse attached by thills at the front end. What I claim as my invention, and desire to secure by letters patent, is—first, the arrangement of the cutters in combination with the comb, operating in the manner and for the purpose described. 2nd. The rake S, in combination with the cutters as described.

T. S. STEADMAN.
E. WILCOX.
ROYAL S. SALISBURY.

COUNTY OF ORLEANS, *State of New York, ss:*

On this, 22nd day of February, 1854, before me, the subscriber, a justice of the peace, personally appeared the within-named Thomas S. Steadman, and made solemn oath that he verily believes himself to be the original and first inventor of the improvements herein described in the machine for harvesting clover and grass seed, and that he does not know or believe the same was ever before known or used, and that he does not know or believe the same was ever before known or used, and that he is a citizen of the United States.

THOMAS S. STEADMAN.

E. WILCOX,
Justice of the Peace in and for the said County of Orleans.

HOLLEY, *April* 20, 1854.

Commissioner of Patents:

Herewith I send you my papers, corrected according to in-
140 structions, as I understand them. Yours,

T. S. STEADMAN.

14TH APRIL, 1854.

The claims of your application for letters patent for a clover and grass-seed harvester have been duly examined, and the first and 2nd of them will be admitted if, upon further examination, the devices prove to be new. The device of your 3rd claim has been an-

ticipated in a great quantity of cultivators, seed planters, and harvesters. See, for instance, Alex. M. Wilson's, Wm. Manning's, or Wm. Jones' harvesters, patented 30 Dec'r, '53, 20th July, '52, 8 July, '51, a. s. f. The peculiar mechanical devices used by you present no patentable feature, as they accomplish nothing beyond what was accomplished in the cases referred to and as these contrivances are mechanically but equivalents of each other, perfectly well known, and differing, if at all, but in their respective arrangements, the specification is, therefore, returned herewith for the erasure of the 3rd claim.

THOS. S. STEADMAN, Esq.

HOLLEY, *Orleans Co., New York.*

HOLLEY, *March* 18, '54.

To the Com. of Patents:

SIR: I herewith return my drawings and papers to you, altered, as I understand, so that they are now right. Yours, truly,

T. S. STEADMAN.

P. S.—SIR: If you should have occasion to address me again, please direct your communication to Holley, Orleans co., N. Y. They were before directed to Murray, which occasioned some delay, not receiving them until the 17th.

T. S. STEADMAN.

To C. Mason.

11 MARCH, '54.

The Com'r of Patents:

The specification of your application for letters patent for a clover and grass-seed harvesters are herewith returned to you, with the drawings for a closer description and illustration, by additional drawing of the device pointed out in pencil marks. You are also reminded that the drawings are to be filed in two copies, all agreeably to the enclosed rules.

Thomas S. Steadman, Esq. Murray, Orleans co., New York.

No. 10, 967, Thomas S. Steadman, of county of Orleans, State of New York, clover and grass seed harvesters. Rec'd March 4, 1854; Petition. March 4, 1854; affidavit, March 4, 1854; specification, March 4, 1854; 2 drawing, March 4, 1854; model, March 4, 141 1854. Cert. dep. cash $10, Mar. 4, 1854. 2 cash $20, March 4, 1854, withdrawn. Examined S. D. Gale, 8 May, '54. Issue A. B. L., May 9, '54 3 patented May 3, 1854. Recorded vol. 56, page 307. Rec'd Mar. 6, '54, in def'ts room, Holley, Orleans co., N. Y. Spc. & drg. ret'd, 11 March, '54. Lpe ret. for bl. 14 April, '54.

5th. Copy from the English Reports of Patents in the library of the Patent Office of a patent granted to John Henry Johnson, November 12, 1852, No. 726, and which is marked defendant's exhibit, No. 5.

Exhibit No. 5.

The U. States Patent Office, to all persons to whom these presents shall come, greeting:

This is to certify, that the annexed is a true copy from the English Reports of Patents in the library of this office, of the patent granted John Henry Johnson, Nov'r 12, 1853, No. 726.

In testimony whereof, I, D. P. Holloway, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this eighteenth day of June, in the year of our Lord one thousand eight hundred and sixty-three, and of the independence of the United States the eighty-seventh.

D. P. HOLLOWAY.

Reaping Machines.

A. D. 1852. No. 726.—Letters patent to John Henry Johnson, of 47 Lincoln's Inn Fields, in the county of Middlesex and of Glasgow, gentlemen, for the invention of "improvements in reaping machines, and in apparatus connected therewith."

Sealed the 5th January, 1853, and dated the 12th November, 1852.

Provisional specification left by the said John Henry Johnson at the office of Commissioner of Patents, with his petition on the 12th November, 1852.

I, John Henry Johnson, of 47 Lincoln's Inn Fields, in the county of Middlesex and of Glascow, North Britain, gentlemen, do hereby declare the nature of the said invention for "improvements in reaping machines, and in apparatus connected therewith," to be as follows: This invention consists in the application of a self-acting raker to reaping machines, whereby the necessity of having an attendant to remove the cut grain from the platform is obviated, the machine itself being made to gather the grain or stalks into bundles, and deposit these bundles behind the machine at regular intervals; and also a new form of cutter. This cutter may be applied to existing reaping machines. This cutter
142 consists of a zigzag-shaped knife, having both front and back eyes serrated or sickle-edged and riveted to a straight bar over which it projects on both sides. The sickle is cut on the upper side; on the under side of the cutters is as nearly flat as possible, so that any matter collecting on the dividing fingers, through which the knives play, and against which they cut, is removed by the back-cutting edge; the principal feature being the making of the knife in this shape, and serrating its edge in the rear for the purpose of removing the clogged matter. In the same vertical plane with the centre of the axle of one of the running wheels of the machine is fitted a vertical support, having a rocking or partial rotary motion in a foot-step, bearing at its lower end, while its upper extremity works in a horizontal pillow-block projecting from the frame work of the machine. In a large opening, in the centre

of the vertical support, and in the same horizontal plane with the centre of a level wheel which works on a fixed stud in the frame work, is fitted a bent lever, one end of which is connected by a ball and socket joint to the inside of the rim of this wheel. An anti-friction roller is fitted to the other end of the bent lever, which works in a slot in the end of a second lever; this lever is connected to the shank of the rake. An iron rod connects the upper end of the rake-handle with the upper extremity of the vertical support hereinbefore described. Beneath this rod is fitted a strong blade spring for the purpose of steadying and supporting it as it approaches the lower point of its descent, and preventing the tremulous motion of the rake, which would otherwise occur while it is extended. To the vertical rocking shaft or support is suspended an iron plate, having teeth at its lower edge; this plate is fitted with coiled springs at its hanging centres, for the purpose of keeping it pressed forward. The action of this machine is as follows: When a sufficient quantity of cut grain has accumulated on the surface of the platform,
143 the rake, which is previously extended by the action of the levers herein-before described, is caused to traverse across the platform, drawing with it the cut grain, and compressing it into a bundle against the sheet-iron plate hereinbefore mentioned; by a partial turn of the vertical support the bundle is brought over the back edge of the platform, and as the rake becomes extended, it is allowed to fall to the ground in the track of the machine; the support now turns back again, and the rake extended to the further side of the platform in readiness for another stroke. The principal features of this invention are the serrated or zigzag cutter hereinbefore described, and the mode of hanging the rake and operating it from the bearing or propelling wheel of the machine, so that it traverses across the bed or platform from the side next the standing grain, towards the side of the machine to which is attached the draft bar for collecting and compressing the grain against and between a palm or hand, with or without a vibratory movement, which hand with the rake, when the grain is thus collected, swings or turns for a quarter of a circle or thereabouts, thus delivering the cut grain in, in bundles, at convenient intervals, the rake openenting or extending backwards when delivering the grain, and then, together with the palm or hand, turning back for the similar collection of another bundle.

Specification in pursuance of the conditions of the letters patent, filed by the said John Henry Johnson, in the great seal Patent Office, on the 12th May, 1853.

To all to whom these presents shall come

I, John Henry Johnson, of 47, Lincoln's Innfield, in the county o Middlesix, and of Glascow, North Britain, send greeting: Whereas Her most excellect majesty, queen Victoria, by Her letters patent bearing date the twelfth day of November, in the year of our Lor one thousand eight hundred fifty-two, in the sixteenth year of He

'd for Herself, Her heirs, and successors, give and grant unto e, the said John Henry Johnson, Her special license, that I, he said John Henry Johnson, my executors, administrators, and assigns, or such others as I, the said John Henry John- y executors, administrators, and assigns should at anytime gree with and no other, from time to time, and all times thereafter during the term therein expressed, should, and lawfully might, make, use, exercise, and vend, within the United kingdom of Great Britain nd Ireland, the Channel Island, and Isle of Man, an invention for 'improvement in reaping machines, and in apparatus connected herewith," being a communication to me from abroad, upon the ondition, amongst other, that I, the said John Henry Johnson, by n instrument in writing, under my hand and seal, should particularly describe and ascertain the nature of the said invention, and in hat manner the same was to be performed, and cause the same to filed in the Great Seal Patent Office, within six calender months t and immediately after the date of the said letters patent.

ow know ye, that I, the said John Henry Johnson, do hereby are the nature of the said invention, and in what manner the e is to be performed, to be particularly described and ascertained and by the following statement, reference being had to the drawgs hereunto attached, and to the letters and figures marked ereon :

[Here follows diagram, marked page 144.]

That is to say, the said invention relates to various arrangements of machinery, apparatus, or means connected with apparatus for mechanical reaping, having special reference to the contrivance of a self-acting raker for collecting the severed grain without the aid of special attendant, together with the attainment of a superior cutng action; and in order that the said invention may be properly derstood, I shall now proceed to describe the several figures on sheet of drawings hereunto attached. Figure 1, on the sheet of wings, is a side or longitudinal elevation of a portion of a reaping hine as fitted up according to the improvements, and showing raker drawn up to the position which it would occupy on depositing the severed grain; a portion of the wheel work being broken away to show more clearly the raking detail; figure 2 is a corresponding end view, looking upon the after or cutting raking end, showing the rake extended to take in the grain; re 3 is a view of the actual raking lever detached; figure 4 is a rt detailed view of the main open frame spindle of the differential ting action; figure 5 is a side elevation of the reaping cutter, with s crank and connecting rod alone, and figure 6 is a corresponding n of the same. The main frame of the reaper consists of the pair f longitudinal wooden beams, converging until they meet at their forward extremities, where they are connected to a pair of leading wheels, not shown in the drawing; into these, beams are morticed, the two wooden B B', and the transverse rails C, which support the

platform D; the opposite ends of these rails being similarly mortiсed into the beam E, which carries the framework F, forming the outer side of the platform; this frame is connected to the tops of the standards BB^1 by the cross-rail F, thereby firmly binding the whole of them. G H are two running wheels, the small one G, being carried by two slotted wrought-iron straps I, one on each side of the wheel; these straps are bolted at their upper and lower extremities to the frame F and beam E, the straps I being slotted vertically; the small running-wheel may be raised or lowered as required, thereby affording facility for adjusting the height of the outer or grain side of the platform; the outer side is adjusted in height by raising or lowering the height of the plate J, which is in one piece, with the axle of the large running wheel H; the plate J clasps, and is bolted when adjusted to the curved plate K, fixed on the outer side of the standard B^1; the small running wheel is fixed in its slot by simply tightening the nut L; a spur wheel M is secured to the "hub" or nave of the large running wheel, and consequently revolves with it; this wheel gearing into the small pinion N, which is keyed into the outer end of the short shaft O; the opposite end of this shaft works in a fixed bearing in the standard B, and the end carrying the pinion N works in move-
146 able bearing in the lower portion of the vertical lever handle P, so that the driver, who sits in the seat Q, may throw the whole of the mechanism out of gear by simply drawing forward the lever handle P. This handle works on the fixed centre R, beneath the pinion N, and is retained in its position, whether in or out of gear, by a projecting on the side of the horizontal handle S, which is kept firm up against the vertical handle by the flat blade spring T. At U is a slotted guide, through which the vertical handle P passes; it is secured by bolts to the side of the standard. A small level pinion V is keyed out to the centre of the shaft O, and takes into the teeth of the large level wheel W. This wheel turns loosely on a stud centre X, which is bolted at a slight angle to the inner side of the standard B^1; a small socket is cast in the interior of the rim of the bevel wheel, and into this socket is fitted loosely the extremity of the bent lever Y, which works on a centre Z in the vertical supporting frame or open spindle *a*, a front view of which is shown at figure 4. This frame spindle is of cast iron and rests at its lower extremity in the footstep bearing *b*, which is bolted to the bottom frame-work of the machine, its upper end working in the horizontal bracket bearing *e*, secured to the cross-piece *d*, which connects the two standards together. A socket *c* is cast on the upper end of the open frame *a*, and into this socket is fitted the lower extremity of the angular or bent wrought iron rod f, which is firmly secured in its place by the pinching screw g. In constructing this machine the centre Z of the bent lever Y must exactly coincide with the vertical and horizontal planes of the fixed stud centre X of the bevel wheel W, and it is set at a distance from that wheel equal to the wheel's radius; the upper extremity of the lever Y carries an anti-friction roller h, which works in the slotted portion of the lever i. This lever oscillates in the fixed bearings J, formed on the two wooden brackets k,

which are let into suitable openings in the frame a and supported at their outer ends by the rods *l;* an iron plate *m*, fitted with
147 rake-teeth at its lower edge, is hinged to the two extremities of the transverse piece *n*, which is attached to the ends of the brackets *k*. This plate is kept pressed forward by means of two coiled springs o o, and is connected by means of a link p with the upper portion or arm of the bent lever Y, so that the motion of this lever will be communicated, but in diminished amount to the plate *m*, the spring serving to bring it forward while the lever Y draws it back. An eye q is formed on the upper extremity of the angular rod *f*, to which is connected one end of the adjustable rod r, the other extremity being jointed to the upper end of the wooden rake handle s. An iron clasp *t* is fitted on to the rake handle a little lower down, and to double eyes on this clasp is connected the outer end of the lever i; a strong flat blade spring *u* is riveted on to the oblique portion of the angular rod f, and a small projecting arm v on the connecting rod r presses down upon the spring when the rake is extended, as shown in figure 2, thereby maintaining the rake steady and free from injurious vibration when in that position. The head w of the rake is firmly secured to its handle or shank by a number of diagonal tie rods x. The sickle gearing consists of the bevel wheel y, which is keyed on to the shaft o, and gears into the level pinion z on the short vertical shaft 1, working in the upper and lower bearings 2 3. A fly wheel 4 is keyed on to this shaft, and to its lower extremity is fitted a small crank 5, (shown in figure 1,) to the pin of which is attached one end of the connecting rod 6, (figures 5 and 6,) while the other end is jointed in a peculiar manner to the forked end of the knife-bar 7. In place of simply passing a bolt through the double eye of the fork and the end of the connecting rod, as is usually done, the latter is formed with a projecting cone on each side, which cone fits into corresponding conical recesses in the interior of the fork, which latter is made long enough to give it elasticity, when the rod 6 is to be connected to the fork 7. It is inserted between the sides of the fork and placed in such a way that the conical projections shall correspond with their holes
148 or recesses; the screw nut 8 is then tightened, which brings the sides of the fork together, and consequently locking in the end of the connecting rod. By this arrangement the great inconvenience of the pin which forms the joint being eventually flattened by the succession of jars, is entirely obviated, as the inherent spring of the fork allows a little play to be given to the end of the connecting rod. The knife itself is of a zigzag shape, and is fitted to the underside of the knife-bar, the cutting edge being at an angle of about forty-five degrees, or rather less, to prevent clogging up the fingers or guide 9. The knife is made angular or zigzag, both back and front, and projects a short distance beyond the back of the blade-bar, instead of being flush with it, as is usually the case. The front or cutting edge of the knife is serrated or "sickle cut" on the upper surface; the back edge is also serrated; but each alternate edge or angle of the zigzag is bevelled the reverse way; but this

bevelling may be either way. Figure 7 represents a detached view of the underside of a zigzag knife or cutter, formed in various separate pieces A A of any size, as shown in the drawing, these separate pieces being riveted or otherwise secured to the knife-bar B. Figure 8 represents a similar view of another shaped knife or cutter, the cutting edges of which are undulating or curved, instead of pointed or angled. This knife may, also, be obviously formed either in one piece, or of several pieces A A, as shown in the drawing, secured to the knife-bar B. In both of these latter arrangements both front and back edges may be serrated in the manner and for the purpose hereinbefore described. To facilitate the self-clearing of the fingers, the upper half, which is laid over the knife, is slotted at 10, so that any foreign matter brought in by the traversing action of the knife, will work itself out again, thereby keeping the passage for the knife clean and free from all obstruction. The outer end of the knife rests upon a metal plate bolted to the underside of the beam E. The fingers 9 are composed of two pieces, the lower half being bolted to the underside of the platform, and having a flat upper surface,
149 to which surface is bolted or otherwise secured the upper half of the finger. This portion is recessed or cut away at its underside, to allow room for the passage of the knife between the two halves, the underside of the knife blade resting upon the flat surface of the bottom half of the finger. The reel or beater 11 works in the ends of the two wooden bars or rails 12 13, which oscillate on fixed centres in the side of the fixed frame work of the machine. The ends of these rails or bars are adjusted in height by turning them or their centres, thereby raising or lowering the reel or beater 11, as the case may be; and, when properly adjusted, the rails are fixed by tightening the nuts 14 in the slotted supporting rods 15, which are secured at their lower extremities to the main framing. A rotary motion is given to the beater by the small pulley 16, fast on the end of the short shaft O, over which pulley is passed a driving band 17, which again passes over the large grooved pulley 18 on the shaft of the beater. The action of this machine is as follows: The large running wheel H being set in motion by the travelling of the machine, gives a corresponding rotary motion to the large spur wheel M, which communicates a rotary movement to the pinion N and shaft O. The bevel pinion V on this shaft gives motion to the large bevel wheel W. As this wheel revolves it carries round with it the end of the bent lever Y, causing the lower arm of the lever to describe a cone, of which the apex is the centre Z, and the base the circumference of the circle described by the socket in the rim of the wheel. This peculiar movement, which involves an essentially novel mechanical action, gives the whole of the movements required for the raker through a species of universal joint motion. The cutter is actuated by the bevel wheel Y, which gives motion to the pinion Z and crank shaft 1, which produces the vibrating motion required. On commencing to cut the rake is drawn up as in figure 1; but by the time a sufficient quantity of cut grain to form a bundle has fallen on the platform the rake has assumed the position shown in figure 2. It

then traverses over the entire length of the platform, bringing with it all the grain which the platform may contain. This
150 movement is effected as follows:

The lower arm of the bent lever Y is carried round in the direction of the arrow by the bevel wheel W, thereby depresisng the upper end of the lever, which gradually brings down the slotted end of the straight lever i, and at the same time elevating the opposite end. This motion will obviously tend to draw the rake inwards, elevating at the same time the upper end of the rake shank or handle S, which is gradually caused to assume a position nearer the vertical line through the action of the radius rod r, which also allows the head of the rake to travel in a plane nearly parallel with the platform, a slight rise being given to it as it traverses over the platform. During this movement the descent of the upper arm of the bent lever Y allows the plate *m*, to be brought forward by the springs o, so that the bundle is grasped between the plate *m* and rake w. The whole of this movement is effected by a quarter of a revolution of the wheel W, and during this time no perceptible change has taken place in the position of the cast iron frame support *a*; but as the wheel W continues its course, the frame *a*, with the bundle of grain, will be turned round a quarter of a revolution, assuming the position shown in figure 1, or at right angles to its first position. While this is going on no alteration takes place in the position of the rake, with the exception of its being carried round with the support; but when the wheel W commences the third quarter of its revolution, the upper arm of the lever Y begins to rise in the slotted end of the lever i, causing the rake to become extended over the back of the machine, thereby allowing the bundle of grain to fall to the ground. During the extension of the rake, the plate *m* is drawn back by the ascent of the lever arm Y. The last quarter of the revolution of the wheel W causes the rake to be swung round in its extended position, and brought again over the platform ready to gather another bundle. By this arrangement the grain is more carefully handled and more uniformly laid than by hand raking, and consequently a slight saving of grain is effected. It would be ob-
151 vious to the practical man that the action of the rake will be quickest where a quick movement is most needed, as, for instance, while sweeping over the platform, and when extending in the rear of the machine to deliver the grain. But when the rake is nearly closed upon the grain, the peculiar action of the anti-friction roller h on the slotted end of the lever i, causes it to decrease in speed, at the same time gaining power to compress the bundle of grain. It is also obvious that by slight modifications in the gearing, the rake may be made to take bundles more or less frequently, at the discretion of the attendant, these bundles being deposited at regular intervals in the rear of the machine as the latter proceeds. In order to crowd the grain well into the cutters, inclined guides, 19 19, are fitted to the platform sides; and that the rake may more readily lay hold of the straws, the platform has a series of projecting ribs, 20, which keeps them raised above the surface, thus preventing the teeth

of the rake from passing over any of the straws without catching them. Should the machine be required for the purpose of mowing, the reel or beater should be set back, and the arms shortened by driving them through the shaft, the platform and raker being removed; this being easily effected, from the peculiar construction of the machine. Having now described and particularly ascertained the nature of the said invention, and the manner in which the same is or may be used and carried into effect, I may observe, in conclusion, that I do not confine or restrict myself to the precise details or arrangements which I have had occasion to describe or refer to, as many variations may be made therefrom without deviating from the principles or main features of the said invention; but what I consider to be novel and original, and therefore claim as the invention secured to me by the hereinbefore in part recited letters patent, is:

First. The system or mode of raking or collecting reaped grain or grass by self-acting apparatus attached to the reaping machine, as hereinbefore described.

Second. The application and use in reaping machines of the
152 differential action or movement, for the purpose of raking or collecting the grain in bundles, as hereinbefore described.

Third. The system or mode of operating the raking movements of reaping machines, by causing the wheels, or the ordinary rotating parts of such machines, to give a compound or combined, partial, rotary, and vibrating action to an actuating, universal joint lever.

Fourth. The application and use in reaping machines, for the purt pose of raking or collecting the grain in bundles, of an universal joint movement, or a movement wherein two axes are disposed at right angles to each other in the same moving frame work, and actuated be a rotary lever describing a conical path.

Fifth. The system or mode of raking or collecting the reaped grain or grass by self-acting mechanism of the reaping machine, acting both across the line of travel of the machine, and parallel, or nearly so, therewith.

Sixth. The application and use, in combination with a reciprocating vibratory movement, of zig-zag or other irregularly shaped knives or cutters, formed either in one piece, or in several pieces combined, having both front and back edges so formed as to be cutting edges.

Seventh. The system or mode of bevelling the back edge of the knife, wherein the opposite sides of the blade are bevelled and serrated, or left plain consecutively.

Eighth. The application and use of slotted fingers, in the manner and for the purpose hereinbefore described.

Ninth. The system or mode of joining the knife-bar with its connecting rod by connical stud pins, as hereinbefore described.

In witness whereof, I, the said John Henry Johnson, have hereunto set my hand and seal, this twelfth day of May, in the year of our Lord one thousand eight hundred and fifty-three.

J. HENRY JOHNSON. [L. S.]

Reissue letters patent granted to D. M. Osborne and W. A. Kirby, assignees of Byron Densmore, for an improvement in harvesters, dated January 28, 1862.

Counsel for complainant consents that a copy of this patent, with specifications and drawings annexed, be used in evidence in
153 this cause, with the same force and effect as if the original was produced.

Reissue No. 1,262.

THE UNITED STATES OF AMERICA:

To all to whom these letters patent shall come:

Whereas, D. M. Osborne, of Auburn, and W. A. Kirby, of Buffalo, New York, assignees of Byron Densmore, of Sweden, and State aforesaid, have alleged that said Byron Densmore invented a new and useful improvement in harvesters, (for which letters patent were issued to him, dated February 10th, 1852, which letters having been surrendered by said assignees, the same have been cancelled, and new letters ordered to issue to them on an amended specification, which he stated had not been known or used before his application had made oath that he was a citizen of the United States; that he did verily believe that he was the original and first inventor or discoverer of the said improvement, and that the same had not, to the best of his knowledge and belief, been previously known or used; said assignees having paid into the Treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose:

These are, therefore, to grant, according to law, to the said D. M. Osborne and W. A. Kirby, their heirs, administrators, or assigns, for the term of fourteen years from the tenth day of February, one thousand eight hundred and fifty-two, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said D. M. Osborne and W. A. Kirby, in the schedule hereunto annexed, and is made a part of these presents.

In testimony whereof, I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand at the city of Washington, this twenty-eighth day of January, in the year of our Lord one thousand
154 eight hundred and sixty-two, and of the independence of the United States of America the eighty-sixth.

[SEAL.]

CALEB B. SMITH,
Secretary of the Interior.
D. HOLLOWAY,
Commissioner of Patents.

Countersigned and sealed with the seal of the Patent Office.

[Here follows diagram marked page 154.]

The schedule referred to in these letters patent and making part of the same.

To all whom it may concern:

Be it known that Byron Densmore, of the town of Sweden, in the county of Monroe, and State of New York, assignor to David M. Osborne, of the city of Auburn, and William A. Kirby, of the city of Buffalo, and State aforesaid, heretofore invented certain new and useful improvements in harvesting machines. Now, therefore, we, the said David M. Osborne and William A. Kirby, assignees of the whole interest of the said Byron Densmore as aforesaid, do hereby declare that the following is a full, clear and exact description of the construction and operation of the said invention and improvements, reference being had to the accompanying drawings making a part of this specification, in which fig. I is a perspective view of the machine; fig. II is a vertical longitudinal section on line X y of fig. III; fig. III is a top plan of the machine; fig. IV is a vertical longitudinal section through the driving wheel showing the combination of the main and supplemental frames; fig. V is a view of the outer side of the grooved curve showing also the ratchet wheel; fig. VI is an elevation of the guard finger; fig. VII is a section of a plate or secondary finger placed intermediate between a portion of the guard fingers, to support the sickle or cutters; fig. VIII is a view of the back tooth of the rake; fig. IX is a view of the outside ground wheel. The nature and principles of the said invention relate 1st, to the construction and combination of two frames, the one for supporting the driving wheel, and the other for supporting the cutting apparatus, and hinging the said frames together in such manner that the driving wheel and cutting apparatus may each follow the inequalities of the ground independently of the other, and also that they may be bolted rigidly together for supporting the cutting apparatus at any desired height. 2nd, in providing a ground wheel with crank and lever for raising and lowering the outer end of the finger bar. Letters of like name and kind refer to like parts in each of the figures. A, represents the main frame of the machine, which consists of several pieces of timber properly framed and bolted together, this frame carries the finger bar and cutting apparatus as herein described. B, are two upright posts forming part of the main frame for the purpose of supporting the drivers seat and for forming an adjustable connection with the supplemental or wheel frame. C, represents a supplemental frame in which the driving wheel is hung, it is hinged to the main frame by means of a bolt and hinge plate as shown at *d*, so as to allow it to have a hinge or joint-like movement, the object being to have a hinge or joint-like connection between the two frames, so as to allow an independent movement of each frame. The particular manner of forming the hinge or joint connection is not deemed important; any mechanical means by which the end is secured will answer the principle of the invention. The opposite end of the frame moves in the arc of a circle and in close proximity to

ıpright posts B, so that it may be made fast to said posts by
ns of bolts passing through said posts and frame at either of the
eral bolt holds b^1, by which means an adjustability is secured and
cutting apparatus thereby raised and lowered and supported at
desired height from the ground when reaping. When desired
adjusting bolts may be removed entirely and this end of the
ıe left free to oscillate or swing from its hinges according to the
enness of the ground over which the driving wheel passes may
re. By this combination and connection of the two frames it is
ıt that the driving wheel when moving may pass over uneven
es without causing an elevation or depression of the finger bar
and cutting apparatus, and the finger bar and cutting appara-
tus may also conform to the inequalities of the ground inde-
pendently of the position of the driving wheel, and a uniform
ility between the two frames constantly maintained, the eleva-
r depression of the driving wheel and the elevation or depres-
f the cutting apparatus (occasioned by the uneven surfaces of
round over which the machine passes) not being simultaneous
ependent one upon the other. The axle of the driving wheel
ppropriate bearings upon the side pieces of the supplemental
ıs shown at c^1, fig. III. The gear wheels for communicating
to the cutters are shown at 1, 2, 3, 4. Each hung in a com-
anner upon its appropriate shaft as shown in fig. III. The
l wheel F in figs. I, III, and IX is hung on the crank h, which
is supported by boxes on each side of the wheel, made fast to
me G, or it may be supported on the finger bar or divider, in
ıvenient manner, so that the wheel may be made to adjust and
the outer end of the finger bar as desired. One object of hang-
's wheel on a crank shaft, with a lever attachment thereto, is
vide a means for conveniently raising and carrying the outer
f the cutting apparatus free from the ground when it is desir-
o move the machine from place to place. Another object is to
a means for raising, lowering and supporting the outer end of
inger bar and cutting apparatus at different heights from the
nd, when the machine is used for reaping. The essential feature
ıis part of the invention is hanging the wheel upon a crank shaft,
the crank and lever for operating the same, so that the purpose
ising and lowering the outer end of the finger bar is attained;
precise details of the arrangement is not deemed important. The
r bar H, is made fast to the side pieces of the main frame upon
upper side of the said pieces by bolts or otherwise, as shown at
o that the inner side piece will serve as an extensive shoe or run-
ner to slide over the stubble or mown grass and protect the
heel of the cutters, D^a driving wheel. L, draught pole attached
to the main frame and to which the team is harnessed in the
ımmon manner. Having thus fully described the construction and
peration of the said improvements, what we claim as the invention
of the said Byron Densmore is, 1st, hanging the driving wheel in a
supplementary frame on its equivalent which is hinged at one end to
he main frame, while its opposite end may be adjusted and secured

at various heights, or be left left free as desired, whereby the cutg apparatus may be held at any desired height for reaping, or be ft free to accommodate itself to the undulations of the ground for mg, substantially as described. 2d. The employment in a harveing machine, of a wheel provided with a crank and lever for purpose of raising and lowering the outer end of the finger bar to high or low, substantially as described.

DAVID M. OSBORNE.
WM. A. KIRBY.

Winesses:
CHAS. H. GARLOCK.
JNO. H. OSBORNE.

7th. Copy from the records of the Patent Office of the drawing in the matter of the reissued letters patent granted to Henry Green, May 25, 1858, for improvement in harvesters, and which is marked defendant's Exhibit No. 6.

[Here follows diagram marked page 157.]

Exhibit No. 6.

THE U. STATES PATENT OFFICE.

To all persons to whom these presents shall come, greeting:

This is to certify, that the annexed is a true copy from the records of this office of the drawing in the matter of the reissued letters patent granted to Henry Green, May 25, 1858 for impt. in harvesters.

In testimony whereof, I, D. P. Holloway, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this ninth day of March, in the year of our Lord one thousand eight hundred and sixty-three, and of the independence of the United States the eighty-seventh.

[SEAL.] D. P. HOLLOWAY.

Defendant produces duplicate model from the files of the Patent Office, illustrating letters patent granted to T. S. Steadman, May 23, 1854, reissued June 19, 1860, and which is marked defendant's model No. 1; also, model of defendant's machine, which is marked
158 defendant's model No. 2; also, model illustrating the machine described in defendant's Exhibit No. 6, and which is marked defendant's model No. 3; also, a model illustrating the machine described in the specifications and drawings annexed to copy of letters patent to John Henry Johnson, Nov. 12, 1852, and which is marked defendant's model No. 4; also, duplicate of a model illustrating letters patent granted to Frederick P. Root, June 8, 1852, and which is marked defendant's model No. 5. Complainant's counsel objects to the statements accompanying the offer of the foregoing exhibits, and gives notice to defendant's counsel that he shall require proofs of their identity. It is agreed that defendant's counsel may

retain the foregoing exhibits and models, subject to the demand of complainant's counsel, it being understood that they shall all be produced on the final hearing of this cause, after which either party is at liberty to withdraw his own exhibits and models.

Q. 4. Have you examined the copy, from the record of the Patent Office, of letters patent granted to Thomas S. Steadman, May 23, 1854, now here shown to you, and which is marked defendant's exhibit No. 1, and do you understand the machine therein described, and the combination recited in the claim?

A. I have examined the copy, marked defendant's exhibit No. 1; I believe that I understand the machine therein described, and the two combinations recited in the claim.

Q. 5. Have you examined the fac simile copies, from the files in the Patent Office, of certain papers contained in the file in the matter of the reissued letters patent granted to W. N. Whiteley, jr., assignee of T. S. Steadman, June 19, 1860, No. 985, marked defendant's exhibit No. 2, and now here shown to you, and do you understand the machine described in the amended specification filed June 4, 1860, "A," and the combinations recited in the claim?

A. I have examined the copies mentioned in the question, and I believe that I understand the machine described in the amended specification, filed June 4th, 1860, "A," and the two combinations recited in the claims.

Q. 5. Have you examined the copy, from the file of the
159 Patent Office, of the file wrappers and contents thereof in the matter of the letters patent granted to Thomas S. Steadman, May 23, 1854, now here shown to you, and which is marked defendants exhibit No. 4, and do you understand the contents thereof?

A. I have examined the copy mentioned in the question, and believe that I understand the contents thereof.

Q. 7. Have you examined fac simile copies, from the files of the Patent Office, of certain papers contained in the file in the matter of the reissued letters patent granted to W. A. Whiteley, jr., assignee of T. S. Steadman, June 19, 1860, No. 986, and which is marked defendant's exhibit No. 3, and do you understand the machine described in the amended specification filed June 4th, 1860, and the combination recited in the claim?

A. I have examined the copies mentioned in the question. I believe that I understand the machine described in the amended specification filed June 4, 1860, and the combination recited in the claim thereof.

Q. 8. Please examine the third claim in the specification of defendant's exhibit No. 4, and which appear therein to have been canceled, and also the claims in the amended specification filed June 4th, 1860, "A," and which is contained in defendant's exhibit No. 2, and state whether or not you find said last-mentioned claims, or either of them, the same as the said cancelled claims or equivalent thereto, or different therefrom; and if different, state wherein particularly.

(Objected to.)

A. I find that the combination recited in the two claims forming

parts of the amended specification filed June 4, 1860, "A," are substantially different from the combination recited in the canceled 3d claim referred to in the question; the first two combinations relate to a different part of the machine from the last-mentioned one, and are composed of a number of members which are not mentioned in the said cancelled third claim.

Q. 9. Please examine the description, specification, and claim of the patentee in the patent issued to Thos. S. Steadman, and which is marked defendant's exhibit No. 1, also the description, specification, and claim in the amended specification filed June 4, 1860,
160 "A," which form part of defendant's exhibit No. 2, and state whether you find the description, specification, and claim in the latter the same or substantially different from the description, specification, and claim in the former; and if you find any substantial difference, please state and describe the same particularly.

(Complainant's counsel objects to the foregoing question—1st. Because it is immaterial; and 2d. Because the decision of the Commissioner in granting the reissues, Nos. 985 and 986, is conclusive, and cannot now be impeached unless fraud be shown.)

A. In both the specifications referred to it is stated in substance that Thomas S. Steadman invented certain new and useful improvements in clover and grass seed harvester. The descriptive portion of the specification in exhibit No. 2, commencing with the words fig. 1, on the first page, and ending with the words "need not be reiterated in this application," describes the same machine which is described in the descriptive portion of the specification exhibit No. 1; but the statement of the invention found in exhibit No. 2, and the claims forming a part of the specification of that exhibit are not found in the specification of exhibit No. 1, nor are any equivalents for them found therein; and the combinations recited in the claims of the specification in exhibit No. 2, and set forth therein as constituting the invention of Steadman, are substantially different from the combination recited in the claims of exhibit No. 1, and set forth therein as constituting the invention of Steadman. No one of the members of the combination recited in the claims of the specifications in exhibit No. 2, being described as constituting any part of what is set forth as the invention of Steadman in the specifications and claims of exhibit No. 1.

Q. 10. Please state, whether in your opinion the machine described in defendant's exhibit No. 1, is adapted to the mowing of grass or the reaping of grain, and if you think not, please state your reasons fully.

A. In my opinion the machine referred to in the question is entirely unsuited for either purpose. The cutting apparatus
161 could not be used for reaping or mowing, as the revolving cutter would not pass over the heads of the stalks and cut them sufficiently near the ground for either reaping or mowing; moreover the speed at which the cutting apparatus is driven as stated in the description, is not one suited to the mowing of grass or the reaping of grain, although it is fast enough to pull off the heads of clover

or grass seed. In my opinion the construction of the cutting apparatus is not such as to cut stalks of grass or grain at an approximately even distance from the ground, so as to leave a stubble. The box behind the cutting apparatus and which is intended to receive the clover heads, would prevent the machine from being used as a mower even if the cutting apparatus was suited to mowing, as the box would catch the stalks and prevent them falling to the ground behind the cutting apparatus. This box would also prevent the machine from being used as a reaper, as its high sides would prevent the discharge of the grain, by means of a fork or raking apparatus.

Q. 11. Please state whether or not, in your opinion, the machine as described in defendant's exhibit No. 2, and which is illustrated by defendant's model No. 1, could be operated as a practical machin when the levers were not held rigid.

A. In my opinion it could not. If the levers were not held rigi the front end of the machine would bear upon the ground and crus down the stalks of the clover or grass whose heads it is designed t remove, and at the same time the cutter bar, unless the stalks were quite short, would also tend to crush them down instead of passing them over, so that I do not think the machine would practically operate under such circumstances. The hinder end of the lever als under such circumstances would trail upon the ground.

Q. 12. Please examine model of defendant's machine now show you, marked defendant's model No. 2, and state whether or not, i your opinion, the combinations as recited in the first claim in th amended specification filed June 4th, 1860, "A," defendant's ex hibit No. 2, is shown in said model, and give your reasons for an opinion you may express.

162 A. In my opinion, the combination recited in said first claim, is not embodied in defendant's model No. 2. My reasons for this opinion are, that the said combination is composed, among other things, of certain "gearing," which must be substantially such as is described in the descriptive portion of the specification, and on examination of this portion, I find it is essential to the operation of the machine, that the pinion carried by the box, and whose axis is the axis on which the supplementary frame or arm turns, should revolve in the same direction as the main wheel, and that in order to produce this effect, the intermediate wheel "M," forming part of the gearing, is necessary. I do not find such gearing as this in the defendant's model 2, or any equivalent for it. I also find it stated in the descriptive part of the specification 4, that the axis of the gears, except that of the pinion (S) are arranged on a single piece, (J,) and that the latter turning only on the pinion shaft "C," may be said to virtually hold in itself all the gearing. I understand from this, that the piece J, which is the supplemental arm or frame,) is to be so formed and arranged, that it first turns on the pinion shaft which carries the crank which drives the cutters; and second that it will hold all the gearing that intervenes between the maste wheel and the pinion whose shaft carries the crank of the cutters and I find neither of these peculiarities in defendant's model 2.

Q. 13. Please examine model of defendant's machine, now shown you, marked defendant's model No. 2; and state whether or not, in your opinion, the combination as recited in the 2d claim, in the amended specification, filed June 4, 1860, A, (defendant's exhibit No. 2,) is shown in said model; and give your reasons for any opinion you may express.

A. In my opinion the combination recited in the 2d claim mentioned in the question, is not embodied in the said model; my reasons for this opinion are, that the said combination is composed, among other things, of the same "gearing" and "supplementary frame" which form parts of the combinated recited in the first claim, and that the model, exhibit 2, does not contain either

163 "gearing" or a "supplementary frame," such as are described in the specification recited in the question, and having the peculiarities mentioned in my last preceeding answer.

Q. 14. Please examine the model now shown you, marked defendant's model No. 4; and state whether or not you find represented in said model, the same parts substantially in combination, either in form or function, and combined in the same manner, substantially as described and claimed in the first claim mentioned in question 12; if not, please state wherein you find the corresponding parts, or the combination to differ.

A. In reply to the question, I will assume that the ring secured to the inner sides of the arms of the main wheel, and the disk secured to the small shaft that is parellel to the axle of the main wheel, are intended to represent a cog wheel and pinion, whose teeth engage; and I am of opinion that the said model does not embody the combination recited in the first claim mentioned in the question. I find that the combination embodied in the model No. 4, and the combination recited in the said first claim differ in the following particulars: There is no intermediate wheel in the model, between the cog wheel or main wheel and pinion, as there is in the gearing described in the descriptive part of the specification preceeding the said first claim, consequently the gearing of the model is not gearing substantially such as described as recited in said claim; moreover, the supplementary frame in the model, although provided with an axle for the main wheel, is not so formed and arranged as to carry all the gearing which intervene between the cog wheel secured to the said main wheel, and the pinion on the shaft, which carries the crank for operating the cutter, nor is the supplementary frame in said model arranged to turn upon the axis of the pinion upon the shaft, which carries the crank for operating the cutter, which two peculiarities, I understand to be distinguishing characteristics of the arm or supplementary frame, which is one of the members of the combination recited in said first claim.

Q. 15. Please examine defendant's exhibit No. 5, and state

164 whether defendant's model No. 4 is a correct representation of the main frame and supplementary frame, main running wheel, main cog wheel and pinion, represented in the drawing annexed to the specification of the English patent of Johnson, defendant's exhibit No. 5, and described in the specification thereof.

(Objected to, because no such term as "supplementary frame" is used in Exhibit No. 5.)

A. The model is a substantial representation of the parts mentioned in the question. The main frame of the model corresponds with what is called the "main frame" in the Johnson specification. The supplementary frame which I understand to be intended in the question, is called, in the Johnson specification, the plate J, which is in one piece with the axle of the large running wheel H. The main running wheel of the model corresponds with the large running wheel H in the Johnson patent. The ring on the running wheel of the model and disk on the shaft that is parellel with the axle of the running wheel, represents the "spur wheel M," and "the small pinion N," described in the Johnson specification.

Q. 16. Please examine defendant's model No. 4, and state whether or not you find represented in said model the same parts substantially, or their equivalents in combination, either in form or function, and combined in the same manner substantially as described and claimed in the amended specification, filed June 4, 1860, which forms part of defendant's exhibit No. 3, and give the reason for any opinion you may express.

A. I find in the said model No. 4, a substantial representation of a combination which is substantially the same as the combination of parts of described and claimed in the amended specification referred to in the question. The main frame of the model corresponds with the main frame A, recited in the claim. The plate carrying the axle of the running wheel in the model, corresponds with the "supplementary frame F, on which is formed or secured the master-wheel axle," recited in the claim. The curve plate in the model, (which retains plate carrying the axle of the running wheel in its position,) and the screw bolts are the equivalent of the "retaining arc H," recited in the claim; and the members I have referred to, as existing in
165 said model, are constructed and arrayed in such a manner and that the main frame and supplementary frame, "or plate," with its master-wheel axle, will be held in parallel planes relatively to each other, while they are moving up and down, substantially as described in the specification referred to in the question.

Q. 17. Please examine defendant's model No. 3, and state whether or not you find represented in said model the same parts substantially, or their equivalents in combination, either in form or function, and combined in the same manner substantially as described and claimed in the annexed specification, filed June 4, 1860, and which forms part of defendant's exhibit No. 3, and give the reasons for any opinion you express.

A. I find in the said model No. 3, a substantial representation of a combination, which is substantially the same as the combination of parts described and claimed in the amended specification referred to in the question. The main frame of said model corresponds with the "main frame A," recited in the claim. The supplementary frame carrying the axle of the master wheel in the model, corres-

ponds with the "supplementary frame F, on which is formed or secured the master-wheel axle," recited in the claim. The upright frame on which the fig. 3 is placed in the model, is the equivalent of the "retaining arc H," recited in the claim; and the three members in the model are combined in substantially the same manner, and produce the same effect so far as respects the holding of the supplementary frame with its master-wheel axle and the main frame in parellel plains relatively to each other, while they are moving up and down, as the corresponding three parts recited in said claim.

Q. 18. Please state whether defendant's model No. 3 is a correct illustration of those parts of the machine described in the specifiations in reissued patent No. 1,262, which it purports to represent?

A. It is assuming that the cog wheel described in the said patent, and represented in the drawing thereof, are represented by the smooth rim disk, shown in corresponding portions upon the model.

Q. 19. Please examine defendant's model No. 5, and state
166 whether or not you find represented in said model the same parts substantially, or their equivalents in combination, either in form or function, and combined in the same manner substantially as described and claimed in the amended specification, filed June 4, 1860, and which forms part of defendant's Exhibit No. 3, and give your reasons for any opinion you may express.

A. I find in the said model No. 5, substantially the same combination of parts as is claimed and described in the specification referred to in the question. The main frame of the model to which the tongue is attached corresponds with the main frame A, recited in the claim. The supplementary frame of the model, on which is formed the master wheel axle, corresponds with the supplementary frame F, on which is formed or secured the master wheel axle recited in the claim. The retaining arc secured to the main frame in the model corresponds with the retaining arc recited in the claim. And the three members of the model are constructed, combined, and arranged in such a manner that the main frame and supplementary frame, with its master wheel axle, will be held in parallel planes relatively to each other while they are moving up and down, substantially as set forth in such specification.

Adjourned to 10 a. m., the 3d inst.

FRIDAY, *June* 3*d*, 1863.

Present, counsel on both sides.

Cross-examined by Mr. Fisher, counsel for complainants:

Q. 20. Please to look at defendant's model No. 1, illustrating complainant's machine, and state whether or not said model corresponds to the drawings and descriptive portion of the specification of the original patent to Thomas S. Steadman, May 23, 1854.

A. It does, so far as I can perceive, except in one particular, namely, that in the model the arms which correspond with the arms L in the specification, are represented with holes at their front ends to fit upon the pinion-shaft; while in the specification of the

original patent the two arms are described as having "slots" on the front ends to receive the shaft E, which is the pinion-shaft, and in the drawing, at figure 5, this slot is plainly shown.

Q. 21. Do you find in model No. 1 a main frame or box which carries the pinion, which drives the cutters?

A. I do.

167 Q. 22. Do you find such frame in combination with an arm or supplementary frame, provided with an axle upon which the main wheel, with its gearing, revolves?

A. I find the combination of the main frame or box with such an arm as is mentioned in the question, but I think that the term supplementary frame is an improper one as applied to the last device.

Q. 23. What do you understand by a supplementary frame?

A. I understand the supplementary frame, abstractly, to mean some frame that is supplementary to something else.

Q. 24. Is not this frame carrying the main wheel and gearing a supplement or addition to the main frame?

(Defendant's counsel objects to the use of the term "frame" in the question, as being inappropriate and improper.)

A. The arm L, in my understanding of what constitutes a frame, is not a frame; the arm L is in addition to the main frame, and in that sense may be said to be supplementary.

Q. 25. Regarding the term frame as equivalent to support for the working parts, is not the term "supplementary frame" correctly used?

A. Assuming that the word "frame" is synonymous with "arm," it would be a correct word to apply to the arm L, carrying the driving wheel axle and gearing.

Q. 26. In model No. 1 is this supplementary arm or frame so connected with the main frame as to vibrate relatively to it around the pinion shaft?

A. It is.

Q. 27. Do you find the combination of the main frame or box and arm, or supplementary frame, on which is formed or secured the master wheel axle, with a retaining arc, the whole so constructed and arranged that the main frame and supplementary arm will be held in parallel planes, relatively to each other, when moving up and down, substantially as described in the amended specification filed June 4, 1860, marked defendant's exhibit No. 3?

A. I do.

Q. 28. What do you understand by the terms, pinion and pinion shaft, as used in mechanics?

A. Abstractly speaking, I understand a pinion to be a cog wheel, with a small number of teeth, which is driven by another cog wheel having a larger number of teeth. I understand a pinion-shaft

168 to be a shaft to which a pinion is secured.

Q. 29. Do you call the intermediate wheel upon the supplementary arm, in model No. 1, a pinion?

A. I should not call it so.

Q. 30. What is the effect of that wheel?

A. Its effect is two-fold. It transmits motion from the cog-wheel, secured to the master wheel, to the pinion on the crank-shaft of the cutters in such manner that the said crank shaft revolves in the same direction as the master wheel, as it is necessary that it should revolve in order to operate the cutters represented in the model. t also, by reason of its diameter, enables the arm L to be made of greater length than it otherwise could be.

Q. 31. So far as it operates as driving gear, does it do anything more than reverse the motion which would otherwise be transmitted to the pinion by the gear upon the master wheel?

A. No.

Q. 32. What do you understand by the term "master wheel," as used in any of the specifications of the Steadman's invention, filed June 4, 1860, before referred to by you?

A. I understand it to be a term used to designate that wheel of the machine which runs upon the ground, and imparts motion to the cutters.

Q. 33. Do the large wheels defendant's model No. 5, fall within this definition?

A. They do not fall within this definition, strictly applied, because there is no cutting apparatus in that machine.

Q. 34. Are they anything more than carrying wheels?

A. In that model they are carrying wheels, which do not impart motion to any part of the machine.

Q. 35. Is the machine represented in model No. 5 capable of reaping or mowing, or harvesting clover or grass-seed?

A. No.

Q. 36. What do you understand by the term "retaining arc," as used in the amended specification, filed June 4, 1860, marked defendant's exhibit No. 3?

A. I understand it to be the part of the machine which is connected with the main frame and acts upon the arm L to guide it in its movement. There are two of these arcs in the machine—one for each large wheel.

Q. 37. Is it not necessary that it should be so constructed as to hold the supplementary arm to the main frame, when the former is moving up and down?

169 A. It, or its equivalent, must be so constructed that the plane of the sides of the arm will remain substantially parallel with the plane of the side of the frame or box during the movement of the arm.

Q. 38. What is the device by which this is effected in model No. 1?

A. The curved pieces of metal, one of which is secured to each side of the box, in the vicinity of the large wheel.

Q. 39. Is not the same function performed by substantially the same device in defendant's model No. 2?

A. In my opinion it is.

Q. 40. Look at the defendant's model No. 4, and state what device you find for retaining the plate to which the master wheel axle is

attached, so that the plane of the side of said plate would remain parallel with the plane of the side of the frame during the movement of the plate?

A. I find the curved plate secured to the frame, and the screw-bolts which pass through the plate that carries the axle of the driving wheel; speaking literally, the plate that I have mentioned and the bolts do not secure absolute parallelism during the movement of the plate that carries the axle of the master wheel, because the bolts are withdrawn in order to permit movement. The curved plate and bolts, however, secure the parallelism of the plate which carries the axle of the driving wheel, and the main frame, in whatever position the former is placed in reference to the latter.

Q. 41. Is there any provision in model No. 4 for permitting the master wheel to move up and down relatively to the main frame while the machine is in operation?

A. There is not.

Q. 42. Is there any such pinion in model No. 3? And if so, what is it?

A. There is. There are pins which are passed through the supplementary frame and the small upright frame on which the figure 3 is placed. When these pins are taken out, the master wheel is permitted to move up and down relatively to the main frame while the machine is in operation.

Q. 43. Would that machine be capable of practical operation if the pins were removed?

A. I have no doubt it would.

Q. 44. Is there a common axis of motion between the main and supplementary frames? If so, what is it?

170 A. There is the axis on which the supplementary frame turns relatively to the main frame, if that be the feature enquired about. That axis is the central line of the upper screw bolts which pass through the small metal standards which connect the main frame with the supplementary frame.

Q. 45. Look at defendant's model No. 2, and state whether you find therein a main frame which carries the pinion which drives the cutter in combination with an arm or supplementary frame, provided with an axle about which the main wheel and its gearing revolves?

A. I find in the said model a main frame which carries two pinions, which drives the cutter, in combination with an arm, or supplementary frame, provided with an axle, about which the main wheel and the cog wheel secured to it revolves; but I do not understand that cog wheel to be gearing.

Q. 46. What do you understand by gearing, as the term is used in mechanics?

A. I understand it to mean compound mechanism for transmitting motion, in contradistinction to a simple instrument such as a cog wheel, or a belt, or a shaft.

Q. 47. Is not the cog wheel upon the main wheel of model No. 2, in its relation to the other parts, what would properly be termed a "gear wheel?"

A. The cog wheel mentioned in the question is what is termed in by some mechanics a gear wheel, irrespective of its relation to any part of the machine. I mean that its relationship to other parts of the machine does not make it either more or less than a "gear wheel."

Q. 48. Is not the supplementary arm or frame so connected with the main frame in defendant's model No. 2, as to vibrate around the shaft of one of the pinions which drive the cutters in said machine?

A. Yes; but the shaft the arm vibrates around is not the pinion shaft which carries the crank that operates the cutters, but an intermediate shaft, which carries a beveled wheel as well as a pinion, and which might, with just as great propriety, be called the bevel-wheel shaft, or the intermediate wheel shaft, as "the shaft of one of the pinions which drive the cutters."

Q. 49. Is not the pinion shaft of one of the pinions to which
171 you allude in the first four lines of your answer to question 45?

A. It is the shaft of one of these pinions.

E. S. RENWICK.

Subscribed and sworn to before me, this 3d July, 1863.

R. E. STILLWELL,
Examiner, &c.

Byron Densmore, called and sworn on the part of defendant, deposes and says:

Q. 1. What is your name, age, residence, and occupation?

A. Byron Densmore; 50 years of age; reside in Rochester, Monro co., N. York, and am a mechanic.

Q. 2. Are you the same person to whom a patent was issued for improvement in harvesters on the 10th February, 1852?

A. I am.

Q. 3. When did you make your first machine, embracing your improvement?

A. I am at a little loss to fix that date; the first machine was tested two years before the reaper trial at Springfield, Ohio.

Q. 4. Was that a working and practical machine?

A. It was; it cut some ten or twenty acres.

Q. 5. Were other machines made the next season embracing said improvements; and if so, state where, how many, and what was done with them?

A. They were made at Brockport. I think the number made was 21. They were sold in this State, most of them, and a few of them in Ohio; they were used for reaping.

Q. 6. Answer the same question as applied to the next succeeding year?

A. I can't call to mind how many were built the next year, but they were built at Brockport, New York, and at Springfield, Ohio. There were some forty, fifty, or sixty of them built, and this was the season when the reaper trial was held in Ohio, under the State Board of Agriculture of that State, at Springfield, and also the year when

the trial of reapers and mowers was held at Geneva, in the State of New York, in charge of the State Agricultural Society of that State.

Q. 7. Were you acquainted with Thomas S. Steadman, the patentee for improvement in clover harvesters?

Ans. I was.

Q. 8. Where did he reside when you were acquainted with him?

A. At the village of Hawley, Orleans county, New York.

172 Q. 9. How far from Brockport, New York?

A. Five miles.

Q. 10. At what time did he reside at that place, and for h ow long?

A. I knew him there from 1847 or 1848, up to 1854 or 1855, and have not known his whereabouts since.

Q. 11. Were any of the machines mentioned by you operated, or used in or near the village of Hawley; and if so, state in which year?

A. I sold a machine to S. D. Hurd, in the village of Hawley, the year of the reaper trials at Springfield and Geneva, for the harvest of that year. The sale was made just before harvest. It was used there at that harvest.

Q. 12. Were you employed by Mr. Steadman to draw any papers in regard to his procuring a patent for his improvements; and if so, state when, for what improvement, and what was done in regard thereto?

A. I was. It was late in the fall of 1853, or the fore part of the winter or 1854, if I recollect right, for an improvement in a machine for harvesting clover seed. He brought me a model and drawings, and wanted me to make out the papers, which I did, and he took them. I don't know that I have any personal knowledge where he sent them, but I had a conversation with him about them, at which he told me they had been sent back on account of some deficiency. I should say this was during that winter or the following spring.

Q. 13. Did you understand from Mr. Steadman whether these were the first papers sent by him to the Patent Office?

A. I have no recollection on that subject of any previous papers, or of any conversation in regard to previous papers in regard to a patent for that machine.

Cross-examined by Mr. Fisher, counsel for complainant.

Q. 14. When did you make the model which you sent to Washington for your application for your patent of February 10th, 1852?

A. I don't recollect when that model was made, but it was sometime in the winter or spring before.

Q. 15. There is a large red model in the rejected case in the Patent Office, which model bears your name; when was that model made?

(Defendant's counsel objects to this question. 1st. It
173 assumes a fact not proved. 2nd. New matter. 3d. Not pertinent to the issue.)

A. I have no recollection of any such model being there; there may be, however. I got up a machine and tested it in 1847 or 1848, but don't think any model was sent to the Patent Office.

Q. 16. Did you ever make more than one application for a patent for improvements in reaping or mowing machines, and did you send more than one model to the Patent Office of a reaping or mowing machine?

A. I don't recollect of sending more than one, or making more than one application.

Q. 17. How did the machine tested in 1847 or 1848 compare with that patented February 10th, 1852, as to construction?

A. The difference was in driving the knife. The first machine the knife was driven by a cam inside of the rim of the driving wheel. The second was driven by cog gearing.

Q. 18. What do you mean by cog gearing?

A. I mean motion was communicated from one wheel to another by one cog mashing into another.

Q. 19. Was the main wheel hung in a separate frame in the machine of 1847 or 1848?

A. I think it was.

Q. 20. Describe the manner in which it was attached to the main frame.

A. That machine has been so long out of mind, I don't know that I can call it up. My recollection of it now is, that it was hung on a separate frame, and similar to the machine patented in 1852.

Q. 21. Are you prepared to say certainly that it was hung on a separate frame at all?

A. I am not at present, but think it was hung substantially as the machine of 1852.

Q. 22. To what extent was the machine of 1847 and 1848 used; and what became of it?

A. It was used to cut somewhere from five to fifteen acres of wheat, and I don't recollect what disposition was made of it. I used it enough to satisfy me that a cam was not a practical arrangement for driving the cutter. I think it was cut up or burnt up.

Q. 23. Did you mow with that machine?

A. No.

Q. 24. Is your recollection clear that the machine made by
174 you two years before the trial at Springfield, was made like that patented Feb. 10th, 1852, so far as respects the hanging of the wheel in a separate frame, and the adjustment of that frame to the main frame?

A. It is practically the same.

Q. 25. If you filed another model in the Patent Office, might it not have been made in accordance with that?

A. No. If I filed any other model, then it was the model of the old machine. In that particular I can't say but it is identical.

Q. 26. When did you first use one of your machines for mowing grass?

A. I can't be positive about that; but I think the next season after the reaper trials spoken of.

Q. 27. Are you certain that you ever did use it for mowing?

A. I am; but never succeeded very much in mowing with it.

Q. 28. What changes did you make in it to adapt it for mowing?

A. Left off the platform, and took out the bolts that bolted the forward end of the upper frame to the standard, which connect it with the lower frame, so as to leave it to play freely.

Q. 29. Why did not this make a successful mower?

A. There was a defect in the cutter; the knife was not geared high enough; it did not run fast enough. I never made but one trial of it, and that was in pretty tough grass. I was satisfied that it was practicable as a mower; and all it wanted, that I could discover, was that I had not given my knife speed enough.

Q. 30. Why did not you alter the speed of your cutter, and make it a practical mower?

A. It was about time to commence harvest west, and I had to leave it and go west in putting up reapers.

Q. 31. Why did not you make the alteration the next season?

A. I was engaged in other matters, and did not give my attention to it. I never took up the mower after that. The real cause that I did not follow that matter was, that there was some question of infringement coming up between me and McCormick. Those questions were in litigation between other parties and McCormick, and I thought I would wait until those were decided.

Q. 32. How much grass did you cut at the trial of mowing
175 which you made?

A. From a half acre to an acre.

BYRON DENSMORE.

Subscribed and sworn to before me, this 3d July, 1863.

R. E. STILWELL,
Examiner, &c.

I, R. E. Stilwell, duly appointed an examiner by the circuit court of the United States for the southern district of Ohio, to take testimony on the part of the defendant in the foregoing case, do certify that, on the 2nd and 3d days of July, I was attended by Mr. Wright, counsel for the defendant, and by Mr. Fisher, counsel for the complainant, and by the witnesses therein named; that said witnesses were duly sworn by me, and examined before me on those days, and signed their depositions in my presence.

R. E. STILWELL,
Examiner, &c.

New York, July 6th, 1863.

UNITED STATES OF AMERICA,
Southern District of Ohio, ss:

I, John McLean, clerk of the circuit court of the United States within and for said district, hereby certify that the foregoing transcript is an accurate copy of the record and the depositions and papers as the same are kept and filed in this office.

In testimony whereof, I have hereunto set my hand and affixed the

seal of said court, this 10th day of May, A. D. 1867, and in the 91st year of the independence of the United States of America.

Attest:

[SEAL.] JOHN McLEAN, *Cl'k.*

176 Supreme Court of United States.

THE UNITED STATES OF AMERICA:

To William Swayne, greeting:

Whereas, William N. Whitely obtained the allowance of an appeal to the judges of the circuit court of the United States for the southern district of Ohio, directed to remove into the said Supreme Court, to be holden at the city of Washington, on the first Monday in the month of December next, the record of a certain plaint, process, proceedings, and judgment in a suit in equity, wherein you, the said William Swayne, in that action lately recovered against the said William N. Whitely a dismissal of his said bill and costs, as by the said record in the said circuit court remaining appears, in which said record and proceedings, and also in the rendition of the judgment thereupon, manifest error hath intervened, as by the said William N. Whitely we are informed, and the said appeal granted, issued, and allowed, as aforesaid, for the purpose of correcting the errors aforesaid alleged, if any there be: You are, therefore, hereby commanded and cited to be and appear before the judges of the said Supreme Court, at the city of Washington, at the next term of said court, to be holden on the first Monday in the month of December next, to have the errors aforesaid corrected, and the judgment of our said Supreme Court thereon.

Witness, the Honorable Salmon P. Chase, Chief Justice of the United States of America, this 28th day of November, in the year of our Lord one thousand eight hundred and sixty-six, and of the independence of the United States of America the 91st.

H. H. LEAVITT,
One of the Judges of the said Court.

We accept service of the within citation, this 30th day of November, 1866.

MASON & NEWMAN,
Solicitors for William Swayne.

O

Supreme Court of the United States.

DECEMBER TERM, 1868.

William N. Whitely,

Appellant,

versus

William Swayne,

Appellee.

BRIEF FOR APPELLANT.

Spiller & Gates, Printers, 168 Vine Street.

Supreme Court of the U. States.

DECEMBER TERM, 1868.

William N. Whitely,
Appellant,

versus

William Swayne,
Appellee.

Appeal from the Circuit Court of the U. S.

FOR THE SOUTHERN DISTRICT OF OHIO.

BRIEF ON BEHALF OF APPELLANT.

I.

STATEMENT OF CASE.

THE bill was filed November 8, 1861. The first answer was filed January 6, 1862, the first amended answer, March 10, 1862, and the second amended answer, June 6, 1863. The replication was filed January 3, 1862, and the replication to the first amended answer, March 12, 1862, and the replication to the second amended answer, October 25, 1864.

The bill was filed to restrain appellees from selling reaping and mowing machines, containing certain improvements in harvesters, patented to one Thomas S. Steadman, May 23, 1854, and reissued to appellant, as the assignee of Steadman, by Reissues Nos. 985 and 986, dated June 19, 1860, and also for an account of profits derived from the infringement complained of.

The decision below was adverse to the complainant, and the bill was dismissed. The Court (Judge Leavitt), however, in its opinion, did not pass upon the questions of novelty or infringement. In fact, Judge Leavitt expressly says (see opinion appended to this brief, p. 2):

"The legality and validity of these reissues will first be considered. If they are successfully impeached on either of the grounds stated, the complainant's bill can not be sustained, and there will be no necessity for passing on the questions of novelty and infringement."

And again, on page 18, after closing his discussion of the legality and validity of the reissues, the learned Judge says:

"For the reasons stated, the complainant's bill must be dismissed. I have not thought it necessary to inquire into or pass any judgment upon, the issues made in regard to the questions of infringement or novelty. The evidence on these points is voluminous, and in some respects conflicting. I have examined it carefully, but am not prepared to give a definitive opinion. Though I may say, that, as to the infringement alleged, the evidence at least renders it exceedingly doubtful whether it is made out."

It will be noticed that the grounds for impeaching the validity of the reissues in this case are precisely similar to those which existed in the case of *Whitely et al.* appellants, v. *Kirby et al.* appellees, No. 98, of the present term.

An enumeration of these grounds and a comparison of the two cases will show this beyond question.

The learned judge holds the reissues void.

1. Because the oath recites that the original patent was not fully valid and available to the assignee, whereas it should have declared that the patent was inoperative and void.

2. Because the amended specification was not accompanied by a second oath.

3. Because there was an *attempt* on the part of the assignee to extend the reissue beyond the invention described in the original patent.

As to the first ground it will be noticed that the oaths in the cases of the reissue of the Densmore and Steadman patents were precisely alike, except names.

DENSMORE.

State of New York.
County of Cayuga, ss.

On this 17th day of April, 1861, before the subscriber, a Justice of the Peace, personally appeared the above-named David M. Osborne, and made solemn oath that he verily believes that by reason of an insufficient or defective specification, the aforesaid patent of the said Byron Densmore is not fully valid and available to the said assignees, and that the said error has arisen from inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, to the best of his knowledge and belief.

HORACE T. COOK,
Justice of the Peace."

STEADMAN.

City of Springfield,
County of Clark, State of Ohio:

On this 27th day of March, 1860, before me, the subscriber, a Justice of the Peace in and for the city and county above-named, personally appeared the above-named W. N. Whitely, Jr. and made solemn oath that he verily believes that by reason of an insufficient or defective specification the aforesaid letters patent, which was granted to T. S. Steadman and assigned to him, is not fully valid and available to him, and that the said error has arisen from inadvertence, mistake, or accident, and without any fraudulent or deceptive intention, to the best of his knowledge and belief.

REUBEN MILLER,
Justice of the Peace of Springfield Township, Clark county, Ohio."

As to the second ground it will be seen from the rec-

ords, that the proceedings of the Patent Office in the two cases, were almost precisely the same.

DENSMORE.	STEADMAN.
Kirby & Osborne, assignees, apply in 1861 for a reissue of the patent granted to Byron Densmore in 1852. The petition, oath, and amended specification are made by the assignees, and the patentee takes no part in the application. In 1862 an amendment to the specification was filed by the assignees, which was re-sworn to, but was not re-signed or re-witnessed.	William N. Whitely, assignee, applies in March, 1860, for a reissue of the patent granted to Thomas S. Steadman in 1854. The petition, oath, and amended specification are made by the assignee, and the patentee takes no part in the application. In June, 1860, an amendment to the specification was filed by the assignee, which was not re-sworn to, nor was it re-signed or re-witnessed.

As to the third ground of objection, it will be noted that Densmore claimed originally an "improvement in grain harvesters," and his assignees, in the reissue, claimed and obtained a patent for "improvements in harvesters," omitting the word "grain," so as to include mowing machines; that Steadman's patent was originally for "clover and grass seed harvesters," that his assignee sought to drop the adjectives and change the title to "improvement in harvesters," but the Office refused, and the title remained unchanged in the reissue.

Another coincidence between the patents was this:

Densmore, in his original patent, claimed four things, as follows:

"1st. The combination of the grooved cam *M*, and reciprocating lever *K*, so arranged with each other as to give to the rake, while in the act of clearing the platform of grain, an increased rapidity of motion as compared with its backward movement.

"2d. Controlling the motion of the rake by means of the combined action of the band *J*, ratchet *i*, and lever *R*, as set forth.

"3d. The arrangement of the double eccentric *U*, for equalizing the power of the spring *m*, on the lever *K*, in the manner described.

"4th. Forming supports for the vibrating blade on the sickle by the plates *fff*, in sections separate from the fingers, to prevent choking, as described and represented."

None of these related in any way to the use of a supplementary frame for the driving wheel, nor to any part either of the main or supplementary frame. In the reissue the assignees claimed:

"1st. Hanging the driving wheel in a supplemental frame or its equivalent, while its opposite end may be adjusted and secured at various hights, or be left free as desired, whereby the cutting apparatus may be held at any desired hight for reaping, or be left free to accommodate itself to the undulations of the ground for mowing, substantially as described.

"2d. The employment in a harvesting machine of a wheel provided with a crank and lever for the purpose of raising and lowering the outer end of the finger-bar to cut high or low, substantially as described."

In other words, all the claims of the original patent, declared the invention of the patentee to be parts of the machine in no way relating to the parts claimed in the reissue, while all the claims of the reissue declared his invention to be parts of the machine in no way relating to the parts claimed in the original.

The original and the reissue mutually ignored each other.

This was equally true of the Steadman patent. The claims of the original were for:

"1. The arrangement of the cutters in combination with the comb, operating in the manner and for the purposes described.

"2. The rake *S* in combination with the cutters, as described."

The claims of the reissues are stated hereafter and need not be here repeated. It is sufficient to say that the devices claimed, although described in the original patent, are not claimed therein, and that the devices claimed in the original, form no part of the claims of the reissues.

As to the validity of the objections themselves, it may be said, as to the first and second of them:

1. The 13th section of the Act of 1836 requires no oath of any kind to be made by the applicant for a reissue,

therefore it is immaterial whether the oath was of proper form or whether it was appended to the amended specification.

Mr. Justice Grier, in *Burr* v. *Duryee*, on circuit (2 Fisher's Pat. Cases, 288), says:

"Section 13 of the Act does not absolutely require that this suggestion, that a patent is inoperative and void, should be made under oath; nor does it appear that the Patent Office requires that the fact should have been judicially ascertained."

This form of oath was before the Supreme Court in *Burr* v. *Duryee*, 1 Wall. 577, and was commented upon, but not held to be a fatal defect. The point was raised before Mr. Justice Swayne in *Kirby & Osborne* v. *Whitely et al.* on circuit, but it did not prevent a decree for the complainants.

The form of oath was that prescribed by the rules of the Patent Office, when these reissues were granted.

The rules in relation to reissues in 1860, contain the following:

"Rule 44. A reissue is granted to the original patentee, his heirs or assigns, when, by reason of an insufficient or defective specification, the original patent is invalid, provided the error has arisen from inadvertence, accident, or mistake, without any fraudulent or deceptive intention. (Act of 1836, section 13.)

"Rule 45. The general rule is, that whatever is really embraced in the original invention, and so described or shown that it *mig't have been* embraced in the original patent, may be the subject of a reissue."

The forms of oath and petition given in those rules are as follows. It will be seen that they are identical with those used in this case:

"Rule 50. The following are appropriate forms of application for reissues:

SURRENDER OF A PATENT FOR REISSUE.

"*To the Commissioner of Patents:*

The petition of Samuel Morey, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, respectfully represents:

That he did obtain letters patent of the United States for an improvement in the boilers of steam engines, which letters patent are dated on the first day of March, 1850; that he now believes that the same are inoperative and invalid by reason of a defective specification, which defect has arisen from inadvertence and mistake. He therefore prays that he may be allowed to surrender the same, and requests that new letters patent may issue to him for the same invention, for the residue of the period for which the original patent was granted, under the amended specification herewith presented, he having paid fifteen dollars into the Treasury of the United States, agreeably to the requirements of the act of Congress in that case made and provided. SAMUEL MOREY."

FORM OF OATH TO BE APPENDED TO APPLICATIONS FOR REISSUE.

"*City and County of Philadelphia, State of Pennsylvania, ss.*

On this — day of ———, 185–, before the subscriber, a ———, personally appeared the above-named Samuel Morey, and made solemn oath (or affirmation) that he verily believes that, by reason of an insufficient or defective specification, his aforesaid patent is not fully valid and available to him, and that the said error has arisen from inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, to the best of his knowledge or belief.

(Signed) —— ———."

2. The act does not prescribe any formula for obtaining a reissued patent, nor require that the specification for the amended patent shall be signed, witnessed, or sworn to as in the case of an original application. It merely requires the Commissioner, upon ascertaining that the causes for reissue set forth, in the section, exist, to grant the reissued patent.

The third ground of objection is equally untenable.

The devices claimed in the reissues, and every part of the machine described and claimed in them, is actually shown in the model and drawings filed with the original application, besides being fully described in the caveat.

They cover nothing that was not shown in the original model and drawings, and nothing that, in the language of the rule of the Patent Office, "might not have been embraced in the original patent."

See also testimony of Edward S. Renwick:

"*Cross-question* 27. Do you find (in Steadman's model referred to in cross-question 20) the combination of the main frame, or box and arm, or supplementary frame on which is formed or secured the master wheel axle, with a retaining arc, the whole so constructed and arranged that the main frame and supplementary arm will be held in parallel planes when moving up and down, substantially as described in the amended specification, filed June 4th, 1860, marked Defendant's Exhibit, No. 3?"

Ans. I do.

Upon this point Nelson and Hall, JJ., said in *Hussey* v. *Bradley*, 2 Fisher's Pat. Cases, 371:

"Looking only to the *claims* Nos. 450, 742, 743 and 917, it would certainly be difficult to find any evidence that Nos. 742 and 917 were for the same inventions as that *specifically claimed* in No. 450. Indeed, a comparison of the language of these claims would seem, in the absence of all other proof, to repel such an allegation. But it is well settled that, in deciding upon these applications for a reissue, and the question whether the invention claimed on the reissue is the same invention intended to be patented on the original application, the Commissioner of Patents is not confined to the claims, nor even to the examination of the evidence furnished by the specification, models and drawings accompanying the original application; and that any legal proof to show it to be the same invention should be received. *Ex parte Ball*, *Ex parte Dyson*, *and Wilson* v. *Singer*, Law's Pat. Dig. 620, 621, and 622. It is also well settled that the decision of the Commissioner of Patents upon the question is *prima facie* evidence of such fact, and that the subsequent inquiry, when the question is presented to a court and jury, is limited to the fairness of the transaction—to the question of fraud in the surrender. *The Philadelphia and Trenton R. R. Co.* v. *Stimpson*, 14 Pet. 448, 458, 459; *Stimpson* v. *Westchester R. R. Co.*, 4 How. 404; *O'Reilly* v. *Morse*, 15 How. 62; *Batten* v. *Taggart*, 17 How. 84; *Woodworth* v. *Stone*, 3 Story, 753, 754; *Day* v. *Goodyear*, Law's Dig. p. 617, sec. 6.

"Even a statement in an original patent that a part is old, or a disclaimer of a part, does not, it seems, necessarily prevent such part from being claimed in a reissued patent, though it

would have that effect if made advisedly, and not by inadvertence, accident or mistake. *Ex parte Hayden, and Laidley* v. *James*, Law's Pat. Dig. 616.

"On the application for these reissues, the former claims and specifications, and the original models and drawings, were, of course, before the Commissioner. It is shown by the testimony of Mr. Renwick, an expert, that all the devices covered by these reissued patents are contained in the original model, and we have no means of knowing what other proof was furnished the Commissioner, or of determining that such other proof, considered in connection with such model, was not entirely conclusive upon the points of inadvertency, accident or mistake, and of an intention to patent, originally, the inventions covered by the reissued patents. No proof of fraud, unfairness or falsehood, in respect to these applications for reissues, has been given; and, in the absence of such proof, we are bound, under the authorities cited, to presume that such reissued patents were properly issued, and that they do, in fact, cover only the inventions made prior to, and intended to be patented under, the first application. And see, also, *French* v. *Rogers*, Law's Dig., p. 624, sec. 26. (1 Fish. Pat. Cases, 133.)

Again, on page 378 the learned judges say:

"The fact that a portion of these inventions *was not claimed in the original patent*, we have already shown does not defeat the present claims of the patentee, and that even a disclaimer, in the original patent, of an invention claimed in the reissued one, is not, without other proof, enough to avoid the reissued patent. *Ex parte Hayden, and Laidley* v. *James, ubi supra.*

"It is true that in the case of *Batten* v. *Taggart*, 2 Wall., Jr., 102, Judge Kane decided that if a patentee neglects, in his specification, to assert his invention as to a certain part—omits to claim specifically such part, and suffers his patent so to stand for a number of years, he can not afterward surrender his patent and take a reissue claiming such part, as the use under the former patent, without any claim, will be a dedication to the public; but this decision was overruled by the Supreme Court of the United States in the same case (17 How. 85); and the cases to which we have already referred, are, we think, sufficient to show that we can not, after the action of the Commissioner of Patents, in respect to these patents, and without other proof, hold that there has been any abandonment or dedication to the public of the inventions claimed in these reissued patents."

In *Carhart* v. *Austin*, 2 Fisher's Pat. Cases, 543, this

subject was very fully discussed by Mr. Justice Clifford. He says (p. 253):

"Power is undoubtedly conferred upon the Commissioner to allow the specification to be amended if the patent is inoperative or invalid for the reason stated in the provision, and to reissue the patent in proper form. Pursuant to that authority, he may doubtless allow the patentee to re-describe his invention, and to include in the description and claims of the patent, not only what was well-described before, but whatever was suggested or indicated in the specification or drawings which properly belongs to the invention."

See also *Read* v. *Bowman*, 2 Wall. 591.

In *Poppenhusen* v. *Falke*, 2 Fisher's Pat. Cases, 220, Nelson and Shipman, JJ., say:

"It was suggested, on the argument, that it would appear by a comparison of the original and reissued patents in the light of Judge Ingersoll's opinions, that the object of the reissue was to extend the monopoly secured by the patent beyond the limits assigned to it by those opinions.

"This may be, and doubtless is true. Is is quite likely, too, that the necessity, or at least desirableness of a reissue, was first suggested by the remarks of Judge Ingersoll, in defining the original patent.

"But the inference that we are asked to draw from this fact, that the reissue was therefore fraudulent and void, is wholly inadmissible. It not unfrequently happens that a judicial interpretation of this specification or claim of a patent, or both, discloses to the inventor and patentee for the first time, the defects in the instrument, and shows him that he has unwittingly restricted his rights within narrower limits than his discovery, or so inartificially described his invention that he has failed to secure any substantial advantage by it. Such a disclosure furnishes a proper occasion for a surrender and reissue, when the error was inadvertent, and is clearly within the beneficent design of the statute. The judicial mind gives a legal construction to the language of the instrument, and this construction may reveal the fact that the terms used fail to cover the invention. To hold that the inventor should not be allowed to re-state his claims by the use of new terms, would defeat the object of the law, and abridge or strangle the inventor's rights with the imperfect language in which he has attempted to clothe his discovery."

Nor is there anything fraudulent in such a reissue. A man has a *right*, under the present state of the law, to embody in a reissue anything that he had described and

not claimed in his original patent. The only question is "was it his invention?" The effort to do this, and persistence in it, in spite of the efforts of the Patent Office, or of anybody else to prevent him, is not to be called a fraudulent effort if the thing claimed was really his invention and was really described or shown in the original. The learned judge who delivered the opinion below, said in the case of *Swift* v. *Whisen*, 3 Fisher's Pat. Cases, 353 (decided in 1867):

"If there is evidence that the original patentee claimed as a part of his invention, a certain feature, or that a certain feature was a part of his invention which he omitted to claim in his specification and claim, upon the surrender of that patent by himself, or by an assignee, he has a right to incorporate, in the reissued patent, that element, though not claimed specially in the first patent. And in determining this question, that is, the substantial identity of the invention covered by the original patent with that covered and described in the reissued patent, it is competent for the jury to look into the drawings of the original patent to determine whether the inventions are the same. The drawings, as well as the specifications, are to be looked to in giving a construction to the claims of a patent, in determining what was the invention of the original patentee. If, for instance, the drawings show an element of the invention which the patentee has not included specially in his claim, it is evidence, nevertheless, that it was a part of his invention, and he, or his assignee, has a right to incorporate that element in the reissued patent. It will be proper, therefore, upon this point, for the jury to look to all the evidence upon the question whether the invention included in the reissued patent is identical with that patented to Frost & Monroe, and in doing this, as I remarked just now, it will be proper for them to look to the drawings, and to the evidence of Mr. Knight and Mr. Clough, who, if I remember rightly, stated that the drawings of the original patent to Frost & Monroe, were precisely the same as those accompanying the specifications of the reissued patent.

"It will be proper to remark here, that in my judgment, very clear and decisive evidence would be required in order to invalidate this patent upon allegation of fraud in the reissue. In the first place, the grant of the original patent affords a presumption that it was for something new and useful; that the claim of the patentees had been fully and critically examined by the officers of the Patent Office, and that upon clear conviction of the rightfulness of the patent, it was granted to them. Then the fact that there have been three reissues of this patent, and that the original claim has thus been three times submitted to the investigation of the Patent Office,

would be a presumption in favor of the fairness of the transaction: and lastly, the fact that this patent has been extended for seven years beyond the duration of the period for which it was originally granted."

The error may exist in the *title* as well as in the description. It may have been by inadvertence, accident, or mistake, that the patentee described an improvement as applied to "clover and grass seed harvesters," which was just as applicable to "grain" harvesters or to any harvesters. If so, it was his right to correct that restricted title, and to select one that would state the scope of his invention more fairly.

If he insisted upon this right, and fought the examiner upon it, and so subjected his claims to unusual scrutiny, how could he be charged with "fraud" or collusion.

Upon this subject Judge Shipman well remarks in a late case, *Blake* v. *Stafford*, 3 Fisher's Pat. Cases, 301:

"Nor does the allegation that the 'claim is fraudulently and falsely made broader and more general and comprehensive than his invention,' properly present any material questions of fact.

* * * * * * * * *

"The good faith of the patentee is a material question for the Commissioner, when deciding on the surrender and the reissue. But where the patent is brought to the test of a litigation, ambiguity or excess in the specification and claim is to be determined by construction, and the instrument must stand or fall under this test. Ambiguity, which defies construction to elucidate, is fatal, and it is unimportant whether it had its origin in the *mala fides* of the patentee, or in the haste or incompetency of the draftsman. A claim which clearly embraces what is old is void, whether introduced purposely or by mistake. The fact that the patent is ambiguous, or claims too much, is the vital test of its validity, and not the motive or circumstances in which such ambiguity or excessive claim originated. It might be said that if a fraudulent intent to make the specification or claim obscure were proved by extrinsic evidence, the Court ought not to give the patentee the benefit of the liberal rule of construction which prevails in favor of inventors. But this rule of construction rests upon public policy,, and not upon cases of individual merit. Its application to the instrument is necessary before it can be determined whether or not the alleged defect exists.

To withhold its application would be to punish before the *corpus delicti* is proved. It follows from these views that there is no question of fraud in fact presented in this case, which is cognizable by the Court. The propriety and validity of the reissue are not open questions in the present state of the pleadings, unless presented on the face of the papers. No irregularity is discovered in the written proceedings connected with the surrender and reissue; and after a careful comparison of the original and new specification, I find no such repugnance between them as would warrant me in saying that the Commissioner has exceeded his jurisdiction by reissuing the patent for a different invention from that embraced in the original. The specification of the reissue differs of course from that of the original. The object of the surrender was to modify the description or claim, or both. It may be, as the defendant insists, that the ground covered by the reissue is enlarged beyond that embraced in the original. But the true question is, whether it is broader than the original invention."

The decision of the Commissioner is conclusive that the error or defect occurred by inadvertence, accident, or mistake. *Stimpson* v. *Westchester R. R.* 4 How. 404; *Potter* v. *Holland*, 1 Fisher's Pat. Cases, 388.

The "hat-body" case does not purport to overrule the well-established decisions of the Supreme Court in relation to reissued patents. It simply holds that a vague claim in a reissue may be construed by the original patent. Standing alone, the claim of Wells was a claim for a principle, and therefore void. Construed by the light of the original specification, it was found to consist of devices, *not one of which* was used by the defendants.

Where a reissue claims a distinct mechanism, described in the specifications, and found in the original model or drawings, it must be held to be a proper grant, unless fraud be shown.

I proceed to an examination of the case upon its merits.

II.

TITLE AND CLAIMS.

The title of the reissues for an "improvement in clover and grass seed harvesters," and the claims of the two patents are as follows:

Reissue 985.

"What is claimed as the invention of the said Thomas S. Steadman, and is desired to be secured by letters patent, is the main frame or box *A*, which carries the pinion which drives the cutters, in combination with the arm or supplementary frame *J*, provided with the axle *t*, and the master wheel and gearing substantially as described for the purposes specified.

"I also claim the arm or supplementary frame in combination with the master wheel and gearing when said arm or supplementary frame is so connected with the main frame as to vibrate from and around the pinion-shaft substantially as shown and described for the purpose set forth."

Reissue 986.

"What is claimed as the invention of the said Thomas S. Steadman, and is desired to be secured by letters patent, is:

"In combination with the main frame or box *A*, an arm or supplementary frame *F*, on which is formed or secured the master-wheel axle, the employment of a retaining arc *H*, or its equivalent, the whole constructed or arranged in such a manner that the main frame or box and arm or supplementary frame, with its master-wheel axle, will be held in parallel planes relatively to each other while they are moving up and down, substantially as and for the purposes herein set forth."

See copy of drawings on opposite page.

III.

TESTIMONY.

Besides the documentary evidence, six witnesses were examined below, two by appellant, four by appellee. Appellant's witnesses were J. Boyd Elliott and William Clough, both experts. Mr. Elliott gave two depositions,

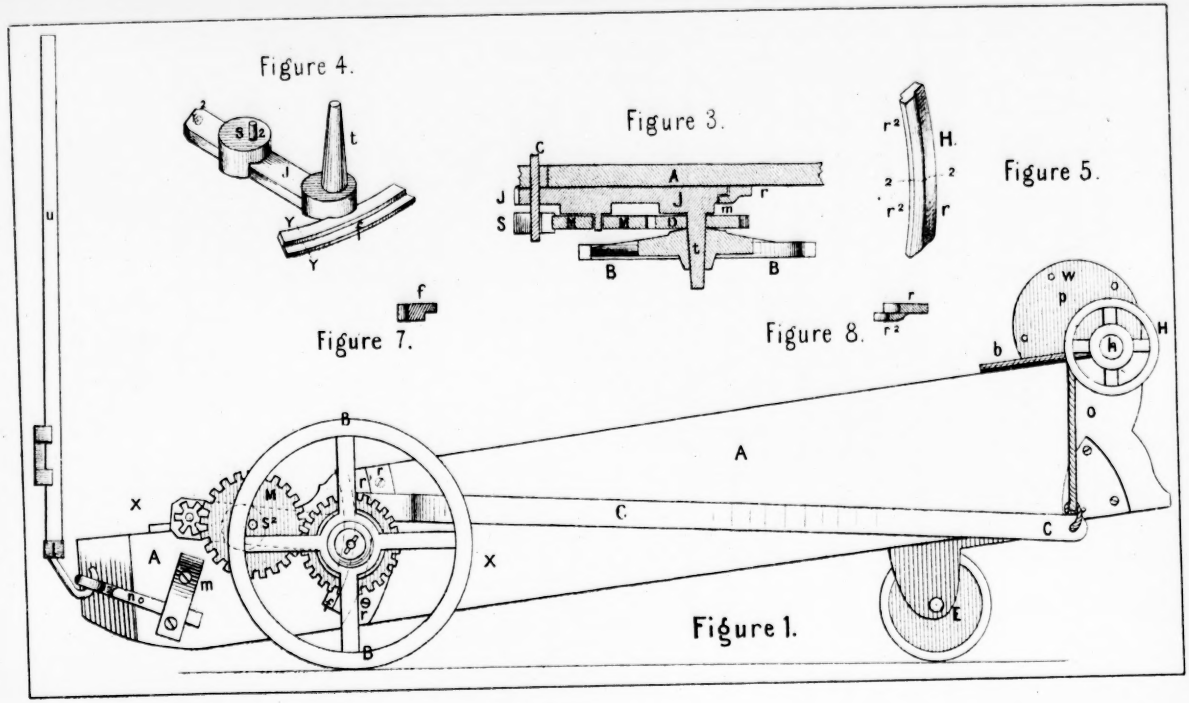
Figure 4.
Figure 3.
Figure 5.
Figure 7.
Figure 8.
Figure 1.
u
t
Y
f
C
A
J
S
r
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r²
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a
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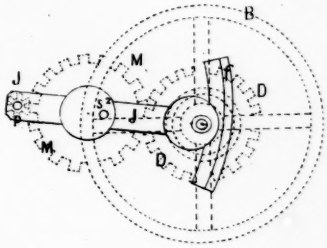


Figure 6.

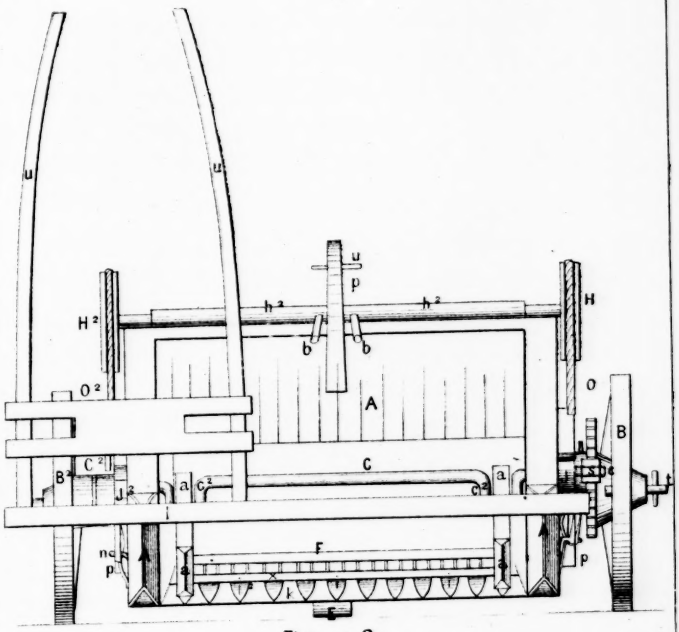


Figure 2.

REISSUES. (985 and 986.)

one relating to infringement only, the other to the question of novelty. Mr. Clough was examined as to both points.

Appellee's witnesses were Frederick Hatch as to date and character of Steadman's invention, and Byron Densmore as to date of his own invention. Also, H. P. K. Peck and Edward S. Renwick, both experts. Mr. Peck was examined only upon the question of infringement, the proof to show want of novelty not having been put in. Mr. Renwick was examined as to infringement and novelty.

The expert witnesses to infringement then were:
Complainants, J. Boyd Elliott and William Clough.
Defendants, H. P. K. Peck and E. S. Renwick.
And the expert witnesses as to novelty were:
Complainants, J. Boyd Elliott and William Clough.
Defendants, E. S. Renwick.

IV.

DATE OF INVENTION.

The date of Steadman's invention is proved by the deposition of Frederick Hatch, taken by the defendant, and by a caveat dated Murray, N. Y., April 28, 1852, and filed in the Patent Office, May 2, 1852.

The following questions and answers are from the deposition of Hatch:

"*Q.* 4. Do you know of his (Thomas S. Steadman) making any clover harvesters while he resided in Holly? If yea, state when and how many.

"*Ans.* He made some there; it was about the year 1850. I believe he made three, that is my best impression now; the last one, I think, he made in 1853 or 1854.

"*Q.* 8. When was the third machine made in reference to the making of the first?

"*Ans.* I think they were made one a year for three years.

"*Q.* 10. Was either the second or third machine made, used in your neighborhood?

"*Ans.* I think the third machine was, before it was sent West. The first he tried around himself, the second one he sent east of Rochester, and the third he used around and then sent it West.

"*Q.* 17. Do you know that Mr. Steadman made a model of his machine? If so, when, and did it embrace the alterations you have mentioned?

"*Ans.* Yes, I know that he made the model; he made it before he made the first machine. I think he made another model. It was made the second year. I don't know as he made any other model."

The caveat described the very thing afterward patented, and the description is even more full and complete than the patent itself. Below the two descriptions are placed side by side, that their similarity may be seen:

CAVEAT, MAY 2, 1852.

"For the purpose of raising and lowering the comb as circumstances may require, the driving wheel is attached to the box in the following manner: A bar of cast iron or other metal is placed on the outside of the box, the front of which *has a hole through it which is slipped on to the axis of the cutter inside of the pinion.*

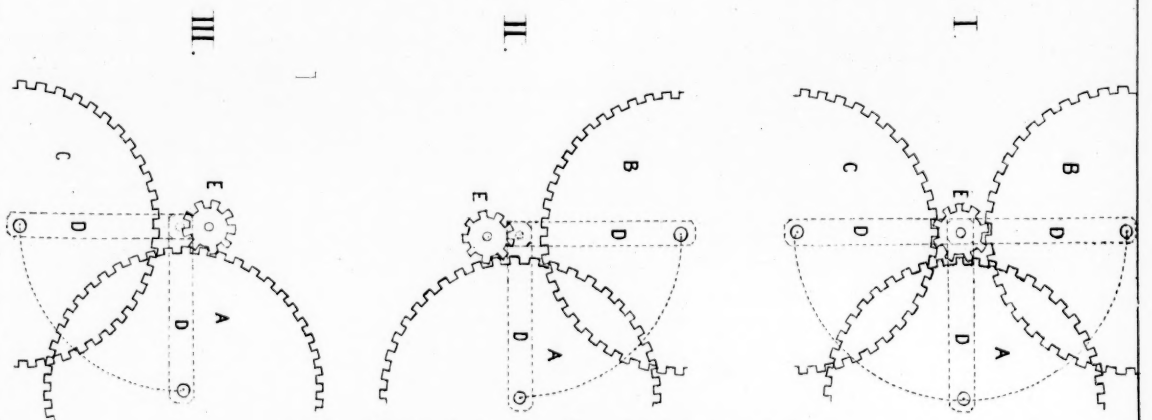
"Near the center of this bar is inserted the axle of the driving wheel. The back of this bar is made broad and is secured to the side of the box by a bolt that passess through it and through a slot in the box. The bolt plays up and down in this slot as the machine is raised and lowered, and holds the bar where it is placed by a nut that is screwed up on the inside of the box for that purpose.

* * * * * *

"Being thus hung, the machine is raised and lowered to suit any circumstances without interfering with the mesh of the cogs."

REISSUE 985.

"It will be seen by reference to the drawing, that the arm *J* is formed with a hole *y* at one end to accommodate the shaft *c*, and with a curved flange *f* at the other end to work in the groove formed between the projecting lip r^2 of the guide plate *r* and the side of the box *A*, to which the guide plate is fastened, and said arm *J* is furnished with a projecting stud *t*, which constitutes the axis of the master wheel *S*, and a stud S^2 for the intermediate gear *m*, which mashes on one side into the main driving gear *D*, and on the opposite side into the pinion *S* on the end of the shaft *c* which drives the cutting apparatus."



A _ *Master wheel.* D _ *Supplementary frame.*
B _ *do do raised.* E _ *Pinion.*
C _ *do do lowered.*

In figure I. A B & C are in gear with E.
In " II. A is in gear, but B is out of gear; the cogs do not touch.
In " III. A is in gear, but C is out of gear; the cogs do not touch.

The application of Steadman for the patent granted May 23, 1854, was filed March 4, 1854, within less than two years from the filing of the caveat.

V.

THE INVENTION.

IN REISSUE 985, the invention consists of a supplementary or additional frame, carrying the driving-wheel axle, which frame vibrates or moves up and down around the pinion-shaft as a center. The invention does not consist of a main frame, or of a supplementary frame, *but the combination of the two when they both have the axis of the pinion-shaft as a common center.* The utility of this arrangement is apparent when it is considered that the pinion-shaft becomes the center of a circle of which the axis of the driving wheel describes the circumference, and, as every point in the circumference is always at the same distance from the center, it follows that the driving wheel is always at the same distance from the pinion, and therefore, that the two are always in gear, or working order. This could not be the case if the supplementary frame had any other point of attachment. The drawing on the opposite page is an illustration of this position. In the upper figure the parts are shown as arranged in Reissue 985, with the driving wheel in three positions, and always in gear. In the two lower figures the supplemental frame does not vibrate around the pinion shaft, but is above in one, and below it in the other, and consequently the driving wheel is thrown out of gear when raised or lowered.

That this is a correct statement of the invention is evident by looking at the patent.

On page 21 of the Record, line twenty-nine from the top:

"And so that the said *main frame* and supplementary frame shall both vibrate relatively to each other around a common center, which is coincident with the axis of the pinion shaft."

On page 22, line five:

"*J* is the arm or supplementary frame on which the master wheel and gears are hung, and which is arranged on the end of the pinion shaft *C*."

Also, on the same page, line twenty-seven from the top:

"It will be seen by reference to the drawing that the arm *J* is formed with a hole *Y* at one end, to accommodate the shaft *C*."

Also, on same page, line fourteen from the bottom:

"It will be understood that the axis of the gears, except that of pinion *S*, are arranged on a single piece *J*, and that the latter, *turning* ONLY on the *pinion shaft C*," etc.

And in the second claim it is explicitly declared as follows:

"I also claim the arm or supplementary frame, in combination with the master wheel and gearing, when said arm or supplementary frame is so connected with the main frame *as to vibrate from and around the pinion shaft*, substantially as shown and described for the purpose set forth."

By reference to Reissue 986, the same characteristic will be found to be insisted upon.

On page 25, line twelve from the top:

"*C* is the master or main driving wheel of the machine, *e* is its axle, formed on, or secured to and near, the rear end of the arm or supplementary frame *F* (marked *J* in Reissue 985), whose forward and vibrating end is hung on the projecting end of the pinion shaft, *A*," (marked *C* in Reissue 985.)

Again, on the same page, line twenty from the top:

"The arms, the pinion shaft and main frame, vibrate from the

axles of the wheels, *C* and *D*, as fixed centers of motion, while they and the main frame *vibrate from and around the pinion shaft*, on the main frame or box as their centers."

On page 26, line seven:

"It will be observed that the arm or supplementary frame *F*, on which the master-wheel axle *C* is formed or secured, is made with a curved portion *X* (see figures 2, 4, and 6), which is curved on the arc of a circle, *the center of which lies in the center of the hole w, into which the pinion shaft a, fits*, and that this curved portion *r* is formed with a rebate or rabbet *W* (see figures 3 and 4), to accommodate the lip of the retaining strap or plate *H*, which retaining plate is secured to the side of the main frame or box of the machine (as seen at figs. 1 and 3). It will be readily seen that *when the main frame A*, and *master-wheel axle*, and of the *arm* or *supplemental frame F*, are *connected as above described*, that they will each maintain a parallel position, relatively to the others, while one rises and the other lowers."

These quotations show beyond question, that the *point* of Steadman's invention was the connection of the two frames by the pinion shaft.

It is equally a mistake to suppose that the patented invention relates only to two-wheeled machines.

The claim is for a supplementary frame, carrying the axis of the master or *driving wheel*, and as the object of the improvement is to keep the *driving* gear always in working order, there is no occasion for its application to a mere carrying or supporting wheel. This position is fully sustained by a reference to the specifications, by which it will appear that one wheel and one frame only is referred to, both in the statement of invention and in the claims.

In Reissue 985, page 21, line twenty-three from the top, in the description of invention, it is said:

"The invention consists in connecting the main frame or box of the machine with the *master-wheel axle*, by means of *an arm* or supplementary frame, on which the *master-wheel's axle* is formed or fastened; and which *arm* is arranged with the main frame or box and its pinion shaft, in such a manner that said main frame may be raised and lowered, and held at different hights relatively to the *master-wheel axle*."

On page 21, the last line:

"Near its (the main frame) forward end, the wheels *B* and B^2 are placed as shown in the drawing, all of which serves to support the main frame or box *A*, when the forward end of the machine is not running *on* the ground; and one of which, *B, is the master or main driving wheel* of the machine; *b* is its axle or shaft, *c* is the pinion shaft. *J* is *the arm or supplementary* frame on which the *master wheel* and gears are hung, and which is arranged on the end of the pinion shaft *c*."

On page 22, line thirty-three from the top:

"Said *arm J* is furnished with a projecting stud *t*, which constitutes the *axle* of the *master wheel B*."

On page 22, line six from the bottom:

"The shifting of the main frame, relatively to the master-wheel axle, may be more readily accomplished than heretofore, and the machine is also rendered more simple than when the bearing and axle alone, of the master wheel, had to be shifted."

The first claim is for *the arm* or supplementary frame "*J*, provided with an axle *t*, and the *main wheel*," etc. and the second claim is for "*the arm* or supplementary frame, in combination with *the master wheel*," etc.

Thus the claims designate by letter and by name the specific parts to which the claim of the invention extends.

There is but *one* arm *J*, and but one master wheel.

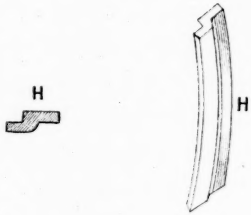
An examination of Reissue 986 will, if possible, strengthen this position.

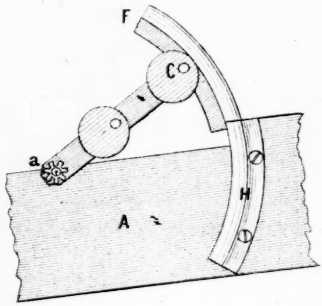
It is asserted on page 24, line thirteen from the bottom:

"The invention which constitutes the subject of this application, consists in so connecting the main frame or box of the machine to which the fingers are attached, to the *arm* or supplementary frame *on which the master-wheel axle is formed* or fastened, that each shall always be kept parallel with the other."

Again, on page 25, line nine from the top:

"*C* and *D* are two larger wheels which serve to support the main





A _ *Main frame.*
F _ *Supplementary frame.*
H _ *Retaining arc.*
C _ *Axle of driving wheel.*
a _ *Pinion and shaft.*

frame or box, when the guard finger-bar *e* (which is the front bar of the box *A*) is not resting on the ground, and *one* of which (*C*) is the *master* or *main driving wheel* of the machine."

So there is but *one* master or main driving wheel, and but *one* supplementary frame supporting it; for the specifications go on to say:

"*C* is its (the master-wheel's) axle, formed on, and secured to and near, the rear end of *the arm* or supplementary frame *F*."

And in the claim this arm is pointed out by letter, as it is in Reissue 985; thus:

"In combination with the main frame or box *A*, and arm or supplementary frame *F*, on which is formed or secured the master-wheel axle," etc.

It is evident that, unless Steadman had merely intended to claim the "pairing" of wheels and arms, a supposition expressly negatived by his description and claims, he was as much the inventor of one as of two; and although he might show a dozen different sets, he could claim and show the protection of a patent over one or all of them, as he has done in express terms by his claims.

IN REISSUE 986, the invention consists *of a retaining arc or lip*, applied to the circumference, or outer edge, of an arm or frame carrying the master-wheel axle, in combination with the main frame, so as to guide the two frames when moving up or down, and keep them together.

The point of this invention is, that the supplementary frame being connected with the main frame at the end, by the pinion shaft, it should also have some connection at the other end, to regulate its motion.

The specifications distinctly point out this device: and it is fully shown by the drawings on the opposite page, where *H* is the retaining arc or lip, which, in its com-

bination with the two frames, forms the subject of this patent.

On page 26, line seven from the top, it is said:

"It will be observed that the arm, or supplementary frame F, on which the master wheel axle C, is formed or secured, *is made with a curved portion*, r, (see figures 3, 4 and 6), which is *curved on the arc of a circle*, the *center of which lies in the center of the hole* w, *into which the pinion shaft*, a, fits; and that this curved portion, r, is formed with a rebate or rabbet, W, (see figures 3 and 4), to accommodate *the lip of the retaining strap or plate* H, which retaining plate is secured to the side of the main frame or box of the machine (as seen in figures 1 and 3). It will be readily seen, that when the main frame A, and master wheel axle and of the arm, or supplementary frame F, *are connected* AS ABOVE DESCRIBED, that they will each maintain a parallel position relatively to the others, while one rises and the other lowers."

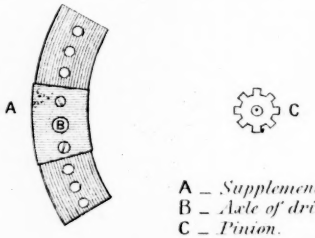
And the language of the claim is explicit and unmistakable:

"In combination with the main frame or box A, and arm supplementary frame F, on which is formed or secured the master wheel axle, *the employment of a retaining arc* H, or its equivalent, the whole constructed and arranged in such a manner that the main frame or box, and arm or supplementary frame, *with its master wheel axle*, will be held in *parallel planes*, relatively to each other, while they are moving up and down, substantially as and for the purposes herein set forth."

VI.

NOVELTY.

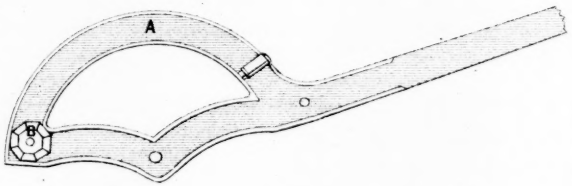
The evidence on the point of novelty relates to the Johnson, Densmore, and Root machines. It may be remarked in general that it is not claimed that these machines show want of novelty in the invention described and claimed in Reissue 985. So far as that patent is concerned, the testimony of all the witnesses concedes the novelty of the combination therein set forth. It will,



A _ *Supplementary frame.*
B _ *Axle of driving wheel.*
C _ *Pinion.*

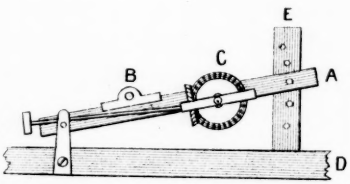
Frame does not vibrate around pinion shaft but is screwed fast.

JOHNSON. (Model No. 4.)



A _ *Supplementary frame.*
B _ *Axle of carrying wheel.*
No pinion, or driving wheel, or gearing.

ROOT. (Model No. 5.)



A _ *Supplementary frame.*
B _ *Axle of driving wheel.*
C _ *Pinion.*
D _ *Main frame.*
E _ *Standard.*

Pinion not on main frame.
Supplementary frame does not vibrate around pinion shaft.
No retaining arc.

DINSMORE. (Model No. 3.)

however, be more convenient to consider each of the above-named machines separately in its relation to each patent, in order to show, first, that the novelty of 985 is not attacked; and, second, that the novelty of 986 is in no way impeached by this evidence.

REISSUE 985.

JOHNSON'S MACHINE, MODEL, NO. 4.

Steadman's caveat was filed May 2, 1852.

Johnson's patent was granted in England, November 12, 1852. This simple statement sufficiently disposes of this item of evidence, but there is no similarity between it and the patented invention.

There is no supplementary frame. The axle of the driving wheel is fastened to a plate screwed to the side of the frame. When the hight is to be varied, this plate must be unscrewed and screwed up again. This plate does not vibrate about the pinion shaft, nor can it be called a separate frame at all. Upon this point the witnesses all agree.

Mr. Elliott, page 44 direct examination:

Q. 3. "Please examine the model now shown you, marked defendant's model No. 3, and state how far, if at all, you find contained in said model the improvements described and specified in reissue No. 985. Please also to make the same comparison with defendant's model No. 4 (Johnson's) and defendant's model No. 5, and state your reasons for any conclusions you arrive at."

Ans. (2d paragraph). In model No. 4, I do not find what in my opinion constitutes the supplemental frame as described and specified in said reissue. But simply a stud upon which the driving wheel is attached, and which is rigidly fastened to the main frame, and without such an arrangement, as to permit its vibration parallel with the main frame, while the machine is in motion. I therefore conclude that it is substantially different from the improvements specified in the said reissue."

Mr. Clough, page 31, direct examination:

Q. 7. "Please to make the same comparison, (reissue 985) with defendant's model, No. 4, and state the result of your examination."

Ans. In the invention No. 985, a connecting arm or frame carrying the main driving wheel, and pivoted to a pinion shaft, which is carried by the main frame of the machine is shown. In defendant's model No. 4, no connecting arm corresponding with the arm before described, is represented, but the main driving wheel is carried by a curved plate which is movably applied to an arc affixed to the main frame; the mechanical device in the latter invention does not permit the frame of the machine to rise and fall relatively to the main driving wheel, while the machine is in motion, but the adjustment of the frame of the machine, relatively to the main driving wheel, must be made when the machine is at rest.

Mr. Renwick, page 112, direct examination:

Q. 14. "Please examine the model now shown you, marked defendant's model, No. 4, and state whether or not you find represented in said model the same parts, substantially in combination, either in form or function, and combined in the same manner substantially as described and claimed in the first claim (of reissue 985), mentioned in question 12; if not, please state wherein you find the corresponding parts or the combination to differ."

Ans. In replying to the question I will assume that the ring secured to the inner sides of the arms of the main wheel and the disk, secured to the small shaft that is parallel to the axle of the main wheel, are intended to represent a cog wheel and pinion, whose teeth engage, and *I am of opinion that the said model does not embody the combination recited in the first claim mentioned in the question.* I find that the combination embodied in the model No. 4, and the combination recited in the said first claim differ in the following particulars: There is no intermediate wheel in the model between the cog wheel on the main wheel, and the pinion, as there is in the gearing described in the descriptive part of the specification preceding the said first claim, and consequently the gearing of the model is not gearing substantially such as described as recited in said claim; moreover the supplementary frame in the model, although provided with an axle for the main wheel, is not so formed and arranged as to carry all the gearing with intervenes between the cog wheel secured to the said main wheel and the pinion on the shaft which carries the crank for operating the cutter. *Nor is the*

supplemental frame in said model arranged to turn upon the AXIS OF THE PINION, upon the shaft which carries the crank for operating the cutter, which two peculiarities I understand to be distinguishing characteristics of the arm or supplementary frame, which is one of the members of the combination recited in said first claim."

And here let it be noted that the foregoing questions and answers in Mr. Renwick's direct examination have no reference to Reissue No. 985, but to Reissue No. 986, which, in the questions, is called "Defendant's Exhibit, No. 3." The exhibits and models have the same numbers, and there is tendency to confusion.

DENSMORE MACHINE, MODEL NO. 3.

This machine has a cumbrous frame which carries the pinion, which is therefore *not* carried on the main frame as specified in Reissue 985. Neither Mr. Peck nor Mr. Renwick were questioned in relation to any resemblance between it and Reissue 985.

But to prevent mistake, Messrs. Elliott and Clough were both questioned on this point, and their testimony is as follows:

Mr. Elliott, page 44, direct examination:

Q. 3. Please examine the model now shown you, marked defendant's model No. 3 (Densmore machine), and state how far, if at all, you find contained in said model the improvements described and specified in said reissue 985.

Ans. I find in model No. 3, a main frame and a supplementary frame, in which the driving wheel is fastened, but I do not find the pinion, which drives the cutters, attached to the main frame, but said pinion is mounted upon the supplementary frame, and its vibrating point is not at the pinion-shaft, but is so arranged as to vibrate without reference to it. I therefore conclude that inasmuch as said reissue specifies that the supplementary frame shall vibrate from the point at the pinion shaft, and that said pinion shall be mounted upon or attached to the main frame, that said model No. 3, does not exhibit the improvement specified in said reissue."

Mr. Clough, page 30, direct examination:

Q. 6. Look at defendant's model, No. 3, and state whether or not you find embodied therein the improvements described and specified in reissue 985, and give your reasons for whatever opinion you may express.

Ans. I do not regard the machine represented by defendant's model, No. 3, as corresponding with the invention described in patent No. 985. In the patent No. 985, the invention consists in connecting the main frame of the machine with a master-wheel axle by means of a supplementary frame or arm, which frame or arm is pivoted to the pinion-shaft carried by the main frame, and vibrates around said pinion-shaft as its center. In defendant's model No. 3, a frame is shown which carries the main driving-wheel, but said frame is not pivoted to the pinion-shaft, and the particular function afforded by the device described in the patent, is not afforded by the device shown in defendant's model No. 3. In the patent No. 985, the supplementary frame or arm carrying the main driving-wheel, is constructed to vibrate with a particular reference to a certain pinion on the pinion-shaft, to which said arm is pivoted, while in said model the design has no reference to a pinion or a pinion-shaft relatively to its vibration."

Root Machine, Model No. 5.

This machine was patented June 8, 1852, one month after Steadman's caveat was filed. It has no master wheel, no pinion or pinion shaft, and no driving gearing. Neither Mr. Renwick or Mr. Peck were questioned as to its identity with Reissue 985, and the testimony of the other witnesses is as follows:

Mr. Elliott, page 44, direct examination:

"Q. 3. By the same. Please examine the model now shown you, marked defendant's model No. 3, and state how far, if at all, you find contained in said model the improvements described and specified in said reissue No. 985. Please also to make the same comparison with defendant's model No. 4, and defendant's model No. 5, and state your reasons for any conclusions you arrive at.

Ans. (3d paragraph). So also in No. 5,—although I find a main frame and a supplemental frame arranged to work parallel with each other, and held in position by a sustaining arc, yet there is no drive wheel supported by said supplemental

frame, but simply a sustaining or carrying wheel, and an entire absence of gearing, either on the drive wheel or the main frame, thereby leaving out some of the elements specified in said reissue, and consequently making said model substantially different from the movements therein specified.

Mr. Clough, page 31, direct examination:

"Q. 8. Please make the same comparison (reissue 985) with defendant's model No. 5, and state the result of your examination.

Ans. In defendant's model No. 5, no pinion-shaft or pinion corresponding mechanically with the pinion-shaft and pinion described in patent No. 985 is shown; the device represented in model No. 5, has no reference to driving gearing, but is solely for the purpose of raising and lowering the main frame of the machine relatively to certain carrying-wheels corresponding with ordinary carriage-wheels, hence there can be no relation in said device to the invention described in patent No. 985, which has reference to connecting gearing.

It is evident, therefore, that the novelty of the combination described and claimed in Reissue 985 is in no way impugned.

REISSUE 986.

JOHNSON'S MACHINE, MODEL NO. 4.

Ante-dated by Steadman's caveat.

The axle of the driving wheel is attached to a plate which is screwed to the main frame. It can not, therefore, "move up and down." If it did, the driving wheel would fall off.

Mr. Renwick, page 117, cross-examination:

Q. 41. "Is there any provision in model No. 4, for permitting the master-wheel to move up and down relatively to the main frame, while the machine is in operation?

Ans. There is not."

Mr. Elliott, page 44, direct examination:

Q. 4. Please compare defendant's models Nos. 3, 4 and 5,

with the improvements described and specified in reissue No. 986, and state whether or not in your opinion, the improvement specified in said reissue, and those illustrated in the models named, agree in principle and mode of operation.

Ans. Inasmuch as said reissue specifies a main frame, and a supplementary frame, carrying the master wheel and a retaining arc to hold its vibrating end parallel to the main frame, and permit it at the same time to vibrate freely in parallel planes with the main frame, and around a point at the pinion-shaft; and inasmuch as I do not find in model No. 3, a supplemental frame so arranged, but one which vibrates at the opposite end from that specified, and that in model No. 4, I do not find a supplemental frame at all; that in model No. 5, I do not find the drive wheel; I therefore conclude that they are substantially different from the improvements specified in the said reissue.

Mr. Clough, page 31, direct examination:

Q. 10. Look again at defendant's models Nos. 3, 4 and 5, and state whether you find embodied in either of them the invention described and specified in reissue No. 986? and state the reasons for such opinions as you may give.

Ans. In the invention described in patent No. 986, the main driving wheel is carried by an arm or supplementary frame, which is pivoted to, and vibrates upon, a pinion shaft carried by the main frame in such a manner, that the altitude of the main frame may be changed relatively to the main driving-wheel without changing the position of the main gear wheel relatively to the pinion, that is, retaining the main gear wheel in appropriate relation to the pinion; the ascent and descent of the main frame of the machine relatively to the main driving wheel, is controlled by an arc furnished with a lip—which works in a rabbet formed in a curved arc which is attached to the main frame of the machine; the vibrating arm may be nicely fitted to the pinion shaft upon which it vibrates, and the arc which works in the rabbet above mentioned, is of considerable length, the construction and arrangement being such that the rising and falling of the main frame of the machine relatively to the main driving wheel, takes place without disturbing the parallelism of the working part. In model No. 4, no means of retaining the main frame of the machine and main driving wheel and gearing, in parallel relation while their relative altitude is being changed, is shown.

DENSMORE MACHINE, No. 3.

This model shows no rebate or rabbet on the curved portion of the arm, nor is there any lip, or flange, or arc, nor does the supplementary frame vibrate around the pinion shaft.

Mr. Elliott, page 44, direct examination:

"Q. 4. By the same. Please compare defendant's models Nos. 3, 4 and 5, with the improvements described and specified in reissue No. 986, and state whether or not in your opinion, the improvements specified in said reissue, and those illustrated in the models named, agree in principle and mode of operation.

Ans. Inasmuch as said reissue specifies a main frame, and a supplementary frame, carrying the master wheel and a retaining arc to hold its vibrating end parallel to the main frame, and permit it at the same time to vibrate freely in parallel planes with the main frame, and around a point at the pinion-shaft, and inasmuch as I do not find in model No. 3, a supplemental frame so arranged, but one which vibrates at the opposite end from that specified—and that in model No. 4, I do not find a supplemental frame at all; that in model No. 5, I do not find the drive wheel; I therefore conclude that they are substantially different from the improvement specified in the said reissue.

Mr. Clough, page 31, direct examination:

"Q. Look again at defendant's models Nos. 3, 4 and 5, and state whether you find embodied in either of them the invention described and specified in reissue No. 986, and state the reasons for such opinions as you may give?

Ans. In the invention described in patent No. 986, the main driving wheel is carried by an arm or supplementary frame, which is pivoted to and vibrates upon a pinion-shaft carried by the main frame in such a manner, that the altitude of the main frame may be changed relatively to the main driving wheel without changing the position of the main gear wheel relatively to the pinion; that is, retaining the main gear wheel in appropriate relation to the pinion; the ascent and descent of the main frame of the machine relatively to the main driving wheel, is controlled by an arc furnished with a lip—which works in a rabbet formed in a curved arc which is attached to

the main frame of the machine; the vibrating arm may be nicely fitted to the pinion shaft upon which it vibrates, and the arc which works in the rabbet above mentioned, is of considerable length, the construction and arrangement being such that the rising and falling of the main frame of the machine relatively to the main driving wheel, takes place without disturbing the parallelism of the working part. In model No. 3, the main driving wheel is carried by a pivoted frame, which permits the main frame of the machine to rise and fall relatively to the driving wheel, but no controlling arc is represented, but in lieu thereof, a standard is shown which controls the movement but in a different manner and without preserving the parallelism of the working parts.

Root Machine, No. 5.

Ante-dated by Steadman's caveat.

In this machine there is no driving or master wheel, no pinion or pinion shaft, and no gearing or working parts. It is a simple cultivator or hoe on two supporting wheels.

Mr. Elliott, page 44, direct examination:

"Q. 4. By the same. Please compare defendant's models Nos. 3, 4 and 5, with the improvements described and specified in reissue No. 986, and state whether or not in your opinion, the improvement specified in said reissue, and those illustrated in the models named, agree in principle and mode of operation.

"Ans. Inasmuch as said reissue specified a main frame, and a supplementary frame, carrying the master wheel and a retaining arc to hold its vibrating end parallel to the main frame and permit it at the same time to vibrate freely in parallel planes with the main frame, and around a point at the pinion shaft, and inasmuch as I do not find in model No. 3, a supplemental frame so arranged, but one which vibrates at the opposite end from that specified—and that in model No. 4, I do not find a supplemental frame at all; that in model No. 5, I do not find the drive wheel, I therefore conclude that they are substantially different from the improvement specified in the said reissue.

Mr. Clough, page 31, direct examination:

"Q. 10. Look again at defendant's models Nos. 3, 4 and 5, and state whether you find embodied in either of them the invention described and specified in reissue No. 986? and state the reasons for such opinions as you may give.

"Ans. (Last paragraph.) In reference to model No. 5, I find it difficult to make a comparison between the invention as represented, and the invention described in No. 986. The device in said patent has reference to preserving the parallelism of shafts, gearing and working parts of a machine, wherein power is communicated from one part to another, and a necessity exists for preserving the working parts in proper position to each other, while in model No. 5, the device has relation simply to raising and lowering the frame of an implement relatively to certain carrying wheels, and having no other function. In this machine a segment is shown, the arc of which works in a grooved arc, and so far as this corresponds with the arc described in the patent, they are alike, and like many contrivances for a similar purpose. I understand the curved groove in which the segment of this machine works, to be used for the purpose of giving strength to the segment as well as retaining it in a close position to the main frame. The idea of parallelism in working parts is not contemplated. I regard the pinion, together with the spring arm herein shown, as being in the nature of a parol, and not in a strict mechanical sense, a working part.

Mr. Renwick, page 116, cross-examination:

Q. 33. "Do the large wheels in defendant's model No. 5, fall within this definition?" (definition of "master wheel," see preceding question.)

Ans. They do not fall within the definition strictly applied, because there is no cutting apparatus in that machine.

Q. 34. Are they anything more than carrying wheels?

Ans. In that model they are carrying wheels *which do not impart motion to any part of the machine.*

VII.

INFRINGEMENT.

The sale of one machine is proven by the affidavit of Isaiah Miller, admitted by consent of parties, and the answer admits the sale of *ten* machines, similar to the one bought by Miller.

INFRINGEMENT OF REISSUE 985.

The elements of the combinations claimed in Reissue 985, are:

First. A main frame carrying the pinion which drives the cutters.

NOTE.—This pinion must be *on the main frame*, and not on the supplementary frame as it is in the Densmore machine.

Second. An arm or supplementary frame to which is fastened the axle of the master wheel with its gearing.

NOTE.—This arm must have attached to it an axle, and that axle must must carry the *master wheel* and gearing. The axle of the Root machine carries neither.

Third. The arm or supplementary frame must vibrate around the pinion shaft on the main frame.

NOTE.—This is not the fact as to the Johnson, Densmore, or Root machines.

The defendant's machine (model No. 2). contains each of these three elements, in combination:

1. It has a main frame, and the pinion which drives the cutters is supported upon this main frame, and not on the supplementary frame.

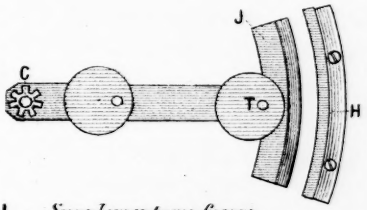
2. It has an arm or supplementary frame which carries the axle of the driving wheel and its gearing.

3. The arm or supplementary frame vibrates around the pinion shaft on the main frame.

The main frames of the two machines are not identical in form, but they are identical in function.

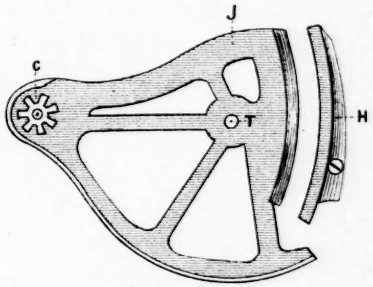
Mr. Peck was asked, page 66, in cross-examination, as follows:

Q. 56. **To effect that function (raising and lowering the machine) is it necessary that the main frame should have any other function than that of carrying the pinion which drives the cutters?**



J _ *Supplementary frame.*
T _ *Axle of driving or master wheel.*
C _ *Pinion and pinion shaft.*
H _ *Retaining arc.*

COMPLAINANT'S. (Model No. 1.)



J _ *Supplementary frame.*
T _ *Axle of driving or master wheel.*
C _ *Pinion and pinion shaft.*
H _ *Retaining arc.*

DEFENDANT'S. (Model No. 2.)

Ans. I would premise by saying that patents are not granted for the effects or results of mechanism, but for the tangible means by which those results or effects are obtained. To be a useful machine it would be necessary that it had some other function, yet I have no doubt that the particular movement referred to might be accomplished by the use of *an entirely different main frame*, provided with suitable means of connecting it, *which means is the pinion shaft* of reissue 985, of the Steadman patent.

Q. 86. In the machine 3099 (defendant's), do not the main and supplementary frames both vibrate relatively to each other, around a common center which is coincident with the axis of the pinion shaft?

Ans. They are capable of that operation to a certain extent.

Q. 89. Do they not vibrate around a common center when they vibrate at all?

Ans. I have already stated in the course of my examination that to the full extent of their vibrations or adjustments they move in the arc of a circle upon a common center.

Q. 90. Is not that common center the axis of the pinion shaft?

Ans. I believe it is.

Q. 91. In the machine 3099 (defendant's), do you not find "a main frame which carries the pinion which drives the cutters?"

Ans. The main frame carries the pinion shaft, upon the projecting end of which is the pinion which communiactes through a system of gearing movement to the cutters.

Q. 96. Is not that supplementary frame (in defendant's machine) provided with an axle upon which the main wheel with its cog gearing revolves?

Ans. It is provided with an axle for the main wheel, its gearing being connected to the face of the main wheel and they both necessarily revolve about that axle.

Mr. Elliott, page 28, direct examination:

Q. 5. Have you seen and examined a mowing and reaping machine now in the warehouse of D. Harper & Son, No. 36 Walnut street, Cincinnati, numbered 3099, marked Buffalo Agricultural Machine Works on the tool box, and also marked 'A" in black paint upon the sector plate and retaining arc. And if yea, state whether you find embodied in said machine the improvements described and specified in said reissue 985, and if yea, give your reasons for your opinion?

Ans. I have examined said machine numbered and so marked, and do find there the combination of a main frame carrying the pinion which drives the cutters, and a supplementary

frame provided with an axle, carrying the master wheel of the machine, all so arranged that the master wheel so connected with the main frame can vibrate from and around the pinion shaft as set forth in the aforementioned reissue No. 985. My reasons are that I find devices identical in construction and capable of performing the same functions.

Q. 10. How far if at all, does the toothed rim upon the arms of the master wheel correspond to the gearing described in said reissues 985 and 986?

Ans. In principle, they are the same.

Mr. Clough, page 31, direct examination:

Q 9. Please to make the same comparison (re-issue 985) with defendant's model No. 2 (the infringing machine), and state the result of your examination?

Ans. In this model, I find a main driving wheel, carried by a frame or arm which is pivoted to and vibrates upon the pinion shaft supported by the main frame, permitting the frame of the machine to be raised and lowered relatively to the main driving wheel in substantially the same manner as in the patent No. 985, preserving in any position an appropriate connection between the main driving gear wheel, and the pinion to which it communicates motion as in the patent No. 985.

Mr. Renwick, page 117, cross-examination;

Q. 45. Look at defendant's model No. 2, and state whether you find therein a main frame which carries the pinion which drives the cutter in combination with an arm or supplementary frame provided with an axle about which the main wheel and its gearing revolves?

Ans. I find in the said model a main frame which carries two pinions which drive the cutters in combination with an arm or supplementary frame provided with an axle about which the main wheel and the cog wheel secured to it revolves, but I do not understand that cog wheel to be gearing.

Q. 47. Is not the cog wheel upon the main wheel of model No. 2 in its relation to the other parts, what would properly be termed a gear wheel?

Ans. The cog wheel mentioned in the question is what is termed by some mechanics a gear wheel irrespective of its relation to any part of the machine, I mean that its relationship to other parts of the machine does not make it either more or less than a "gear wheel."

It is urged, however, that there is upon the arm of the

Steadman machine an intermediate wheel *M*, and that this wheel is essential to Reissue 985, although it is not pretended that it has anything to do with Reissue 986.

It is a sufficient answer to this objection to say that the intermediate wheel is not referred to in any of the claims; that it is expressly stated that it may be removed, and that the witnesses all agree that it is in proper sense "driving gearing," but is used in the Steadman machine for the same purpose that the beveled cog-wheel is used in defendant's machine, viz: to reverse the motion of the cutters.

Mr. Elliott, page 29, direct examination:

Q. 10. "How far, if at all, does the toothed rim upon the arms of the master wheel (in defendant's machine 3099), correspond to the gearing described in said reissues 985 and 986?

Ans. In principle, they are the same."

Also, on page 45, direct examination:

Q. 5. Look at the intermediate wheel "marked M" in the drawings attached to the reissue No. 985,—and state what its office is in the machine described in said reissue?

Ans. I believe the object of its introduction there is to change the motion of the pinion that drives the cutters, from that which it would have, were it driven directly from the master wheel; and it does serve to carry the power or motion from the main wheel to the pinion without the necessity of enlarging the drive wheel, or moving it in as close proximity to the pinion as would be required without it.

Q. 6. "What effect, if any, does it produce in increasing or diminishing the speed of the cutting apparatus?

Ans. It can have no effect, provided the diameter of the drive wheel and the pinion remains the same, in which case of course they would have to be removed close to each other."

Mr. Clough, page 37, cross-examination:

Q. 30. In your answer to the last question, you use the phrase, "The driving gearing carried by a certain vibrating frame or arm." To what vibrating frame or arm do you allude, and specify all the parts intended by you in that answer to be included in the term "The driving gearing carried by that arm."

Ans. I allude to the frame or arm, designated letter J in the patent 985, and the driving gearing is that gearing which communicates the motion from the main or traction wheel, designated letter B in said specifications to pinion designated letter "S." There is intermediate between the main driving gear-wheel and pinion "S," another gear-wheel, the function of which is to reverse the motion of the pinion, the gearing carried by the arm J in this case, of course, includes the intermediate wheel designated letter "M." although it is not properly driving gearing.

Mr. Renwick, page 116, cross-examination:

"Q. 31. So far as it (intermediate wheel "M,") operates as driving gear, does it do anything more than reverse the motion which would otherwise be transmitted to the pinion by the gear upon the master wheel?

Ans. No."

Infringement of Reissue 986.

It is not seriously claimed by defendant's counsel that Reissue 986 is not infringed. Upon this point, as will be seen by the quotations, the witnesses *all agree*. In fact, it is difficult to see how infringement can be successfully denied. The elements of the patented combination are: 1st. A main frame; 2d. An arm or supplementary frame vibrating around the pinion shaft; and 3d. A retaining arc.

The *new* feature of this patent is the "retaining arc," and it would need sharp optics to discover any difference between the arcs used by complainant and defendant. They are identical in form, position, and function.

The testimony of the four experts is as follows:

Mr. Elliott, page 28, direct examination:

Q. 6. State to what extent you find embodied in said machine, No. 3099, the improvement described and specified in the aforesaid reissue No. 986, and give your reasons for any conclusion which you may express.

Ans. I find in said machine a combination with a main frame

and arm (or a supplementary frame) on which is formed or secured a master wheel axle, a retaining arc, all so constructed and arranged that the main frame and supplementary frame, with its master wheel, will be held in parellel planes relatively to each other while they are moving up and down, substantially as specified in reissue No. 986. My reasons therefor are, that I find such devices as will perform those functions.

Mr. Clough, page 32, direct examination:

Q. 11. Please to make the same comparison (reissue 986) with defendant's model No. 2, and state the result of your examination.

Ans. I find the patent No. 986 relates to a description of machine in which the main frame carrying the cutting apparatus and the master wheel which drives the cutters, are capable of moving up or down, each independently of the other, as the machine moves over the surface of the ground, and the invention consists in so connecting the main frame of the machine to an arm or supplementary frame, to which the main driving wheel is secured, that while each is allowed to move up and down independently of the other, the gearing carried by each frame is kept constantly in connection during all their movements. This relation between the two parts of the machine above specified is effected and preserved by pivoting the supplementary frame to a pinion shaft carried by the main frame. The pinion on said shaft receiving its motion from gearing carried by the supplementary frame, the movement of the supplementary frame, which is vibrating on the pinion shaft and changes the relative attitude of the main frame to that part of the supplementary frame which carries the main driving wheel, is moreover controlled by a retaining arc secured to the side of the main frame, which arc receives an arc of corresponding curvature formed upon the vibrating end of a supplementary frame, the effect of this contrivance being to preserve the parallelism of the working parts attached to supplementary frame and main frame, so that the mechanism attached to these different parts operates in harmony in any position which they may be placed. In model No. 2 I find a main driving wheel carried by a supplementary frame which is pivoted to a pinion shaft carried by the main frame of the machine, the supplementary frame vibrating freely upon the said pinion shaft, and the effect being to retain an appropriate connection between the main driving gear wheel carried by said supplementary frame and a pinion upon said pinion shaft carried by the main frame. I find, also, a retaining arc attached to the main frame of the machine which receives an arc of corresponding curvature formed upon the vibrating end of said supplementary frame,

retaining the working parts carried by said supplementary frame in parallel positions relatively to the working parts carried by the main frame; the devices claimed as the invention of the patentee in No. 986, and the purpose thereof are, in my opinion, substantially the same as the devices enumerated in the foregoing answer in defendant's model No. 2.

Mr. Renwick, page 116, cross-examination:

"Q. 36. What do you understand by the term 'retaining arc,' as used in the amended specification filed June 4, 1860, marked Defendant's Ex-No. 3 (reissue 986).

Ans. I understand it to be the part of the machine which is connected with the main frame, and acts upon the arm L to guide it in its movement. There are two of these arcs on the machine, one for each large wheel.

Q. 37. Is it not necessary that it should be so constructed as to hold the supplementary arm to the main frame when the former is moving up and down?

Ans. It, or its equivalent, must be so constructed that the plane of the sides of the arm will remain substantially parallel with the plane of the side of the frame or box during the movement of the arm.

Q. 38. What is the device by which this is effected in model No. 1 (Steadman's)?

Ans. The curved pieces of metal, one of which is secured to each side of the box in the vicinity of the large wheel.

Q. 39. *Is not the same function performed by substantially the same device in defendant's model No.* 2 (defendant's machine)?

Ans. *In my opinion it is.*"

Mr. Peck, page 71, cross-examination:

"Q. 98. In machine 3099 (defendant's) do you not find a combination of a main frame and a supplementary frame on which is secured the master wheel axle and a retaining arc, the whole constructed and arranged in such a manner that the main frame and supplementary frame will be held in parallel planes relatively to each other while they are moving up and down?

Ans. I do."

A comparison of these questions and answers with the claim of Reissue 986, will leave no further room for doubt unless the testimony of the witnesses on both sides is to be disregarded.

In conclusion, the attention of the Court is called to the remarkable unanimity of the witnesses upon the leading questions involved in this case. Although Mr. Peck has evaded and prevaricated, and Mr. Renwick has testified with caution, yet the testimony of these witnesses proves, as we think, beyond a doubt, the novelty of these patents and their infringement by the defendant.

The truth is, the function of the patented devices is identical in both machines, their points of attachment are the same, and their principle of operation, their mode of operation, is so nearly alike, that they might be exchanged without injury to either.

There is much documentary evidence, but after all but little that is material. The novelty is attacked by three machines, two of which are ante-dated by Steadman's caveat, and neither of which contain the "principle" of the invention, viz: The vibration of the arm about the pinion shaft. The infringement of Reissue 986 is virtually admitted, and that of Reissue 985 very feebly denied.

I submit that a decree must be entered for the complainant.

SAMUEL S. FISHER,
Of Counsel for Complainant.

United States Circuit Court,

SOUTHERN DISTRICT OF OHIO.

William N. Whitely

versus

William Swayne.

OPINION OF JUDGE LEAVITT.

THIS is a bill in equity brought by William N. Whitely, for an alleged infringement of reissued patents 985 and 986, dated June 19, 1860, granted to Whitely as the assignee of T. S. Steadman. The patent to Steadman is dated May 23, 1854, and purports to be for "a new and useful improvement in clover and grass-seed harvesters." The infringement alleged is in vending a machine known as the "Kirby Harvester," patented to William A. Kirby and David M. Osborne, assignees of Byron Densmore, on February 10, 1852. The bill prays for an injunction restraining the defendant from the sale of the Kirby Harvester, and for an account of profits arising from the infringement complained of. The allegations of the bill are general as to the infringement, and there is no statement or specification of the parts or elements of the machine sold by the defendant, which infringes the machine described in said reissued patents.

The amended answer of the defendant sets up three several grounds of defense to the bill, which are in substance: 1. That the said reissued patents under which the complainant claims, are void as having been granted without a compliance with the pre-requisites of the patent laws, and also for fraud in their procurement; 2. That the improvements claimed by Steadman in his patent, and by the complainant as embraced in the reissues, are not new, but had been patented and known to, and in use, prior to the date of Steadman's patent; 3. That the machines sold by defendant do not infringe any of the devices described and claimed by Steadman as his invention, or covered by the reissues to Whitely as his assignee.

The legality and validity of these reissues will first be considered. If they are successfully impeached on either of the grounds stated, the complainant's bill can not be sustained, and there will be no necessity for passing on the questions of novelty and infringement.

The intelligent consideration of the character, force, and effect of these reissues, requires some reference to the history of Steadman's invention, as presented by the proofs and exhibits before the Court. These show that on June 13, 1852, Steadman filed a caveat in the Patent Office in which he claimed to have discovered some new and useful improvement in a machine for "harvesting clover and grass seed." The main element of the invention claimed was a device or mechanical arrangement for raising and lowering the main frame or box, with the cutting apparatus, while the machine was in operation, without interfering with the meshes of the system of cog-wheels used as a part of the machinery.

On February 5, 1853, Steadman filed a formal application for a patent for the improvements claimed as his invention. In this application the name of the machine is

the same as in the caveat. On February 2, 1854, the Commissioner of Patents returned the papers to Steadman, with a letter informing him that his application had been rejected. The reasons for the rejection do not appear. On February 23, Steadman by letter withdrew his application, and at the same time transmitted a new application, which was filed in the Patent Office March 4, 1854. The name of his invention was the same in this application as in that previously filed, namely: "New and useful improvements for harvesting clover and grass seed." The specification accompanying the second application, differs in some important particulars from the first. He states his claims under the new application as follows: 1. The arrangement of the cutters in combination with the comb, operating in the manner and for the purpose described: 2. The rake *S* in combination with the cutters, as described; 3. Certain levers or pulleys arranged for raising or lowering both sides of the machine when in motion, and by which the ground wheels are retained in their place while the box is passing over stones or other obstructions.

On April 14, 1854, the Commissioner of Patents returned these specifications for correction. By a letter of that date Steadman is informed that his third claim is rejected, for the reason that he had been anticipated in all the devices claimed in it as new, and that they had been patented to other inventors. The third claim was therefore erased; and on May 23, 1854, a patent issued embracing only the first and second claims, as before set forth.

These are all the facts which it is important here to notice in connection with the emanation of Steadman's patent. And here it will be proper to notice the evidence before the Court, as to the operation and practical value of the machine thus patented to Steadman. The witness on this subject is Frederick Hatch, who lived in the same

town, in the state of New York, in which Steadman resided, and who was familiar with the progress of his invention, and who states fully the various modifications and improvements made by Steadman in his machine prior to the date of his patent. He lived in the immediate vicinity of Steadman's shop, and was frequently in it, witnessing his efforts to perfect his machine. The first machine made by Steadman, the witness thinks, was in the year 1850. He made two others, the last one in 1853 or 1854. The witness does not say positively that the last one was made after the patent issued, but the inference is strong from all the facts stated, that it was so made. He states that he was an eye-witness to the practical working of the machine last made. It was used in his father's field in gathering clover seed, but was a failure for that purpose. It took off only about half the heads of clover, much of which flew over the box of the machine. The witness also states that the machine was not so constructed as to run on the ground, and was designed simply to take off the heads of clover, and that he had no knowledge that it was used for any other purpose. He states also, that the three machines made by Steadman were sent to different places, and he does not know what became of them. There is no evidence before the Court that they were used, or could be used, as practical implements for harvesting clover and grass seed; nor is it claimed by the complainant that they were available for that purpose.

The fact next to be noticed in the history of this patent is the application to the Patent Office by the complainant, as the assignee of Steadman, for a reissue based on that patent. His petition for this purpose was filed April 2, 1860, nearly six years after the date of Steadman's patent. He asks to be allowed to surrender that patent, and that three new letters patent may issue to him for separate

parts of the invention. He recites in the petition, that letters patent were granted to Steadman, May 23, 1854, "for improvements in harvesting machines," and that they were assigned to him December 27, 1859. This petition was accompanied by a specification dated March 27, 1860, signed by complainant in the presence of two witnesses, and sworn to before a justice of the peace in the state of Ohio. There are some peculiarities connected with this application and specification, and the action of the Patent Office in relation to them, which deserve special notice as bearing upon the question of the legality of the reissues to the complainant, and the allegation of unfairness or fraud in obtaining them. Copies of these papers are among the exhibits in the case, duly authenticated by the certificate of the Commissioner and the seal of the Patent Office. In connection with these papers, the deposition of Homer Peck, then an examiner in the office who passed upon the application of the complainant, is also before the Court. From these it appears the examiner was so fully satisfied that the description of the improvements alleged to have been the invention of Steadman, as contained in the complainant's specification first filed, involved such a departure from the original invention and claim, that he ordered the whole to be stricken out, and a specification entirely new, to be filed. A copy of this specification, as cancelled by the examiner, is among these exhibits. I do not propose, nor is it necessary for the purpose of the inquiry now before the Court, to recite this specification and claim. It is of great length, and details with great minuteness, the invention for which the complainant sought for a reissue. One fact, however, may be noted as very significant, that in this specification the complainant persisted in calling Steadman's invention an improvement in "harvesting machines." The witness Peck, states very fully

in his deposition, the reasons for the rejection of the complainant's specification. He objected to the title of "harvesting machines," by which Steadman's improvement was designated by the complainant, and required the name given by Steadman, namely: "An improvement in clover and grass seed harvesters," to be used. He gives as the reason for this, "that the machine was so constructed as to be incapable of the functions of harvesting grass or grain as a reaping or mowing machine." The witness states very minutely, various other terms and forms of expression used by the complainant in his first specification, as wholly inadmissible, and not within the scope or meaning of the improvements as claimed and patented to Steadman. It may be noticed here, that the witness Peck, states distinctly in answer to a question put to him, that the machine described by Steadman could not be successfully used as a reaper or mower, and he gives very clear reasons as the basis of this opinion.

As before stated, so decisively objectionable were the specification and claim of the complainant as embracing an entirely different invention from that patented to Steadman, that the whole was stricken out and cancelled, except the name of the complainant subscribed to the specification, and the names of the attesting witnesses. And on June 4, 1860, a new specification was filed by the complainant as a substitute for the original, which was not sworn to by the complainant, or attested by witnesses. Upon this new specification and the claims appended to it, the reissued patent 985 was finally granted by the Commissioner. I do not propose here to notice the description of the improvement, or the specific claims on which this patent issued. Nor is it necessary to notice separately the facts connected with reissue 986 as a part of the history of the patents under which the complainant

claims. They are essentially the same as those referred to in connection with reissue 985. And all the legal grounds of objection apply equally to both.

The points of inquiry on the facts before the Court, as already stated, are: 1. Whether the statute on the subject of reissued patents in all its material requirements has been complied with. 2. Whether these reissues were unfairly or fraudulently obtained.

The 13th section of the Patent Act of 1836 provides: "That whenever any patent which has heretofore been granted, or which shall hereafter be granted, shall be inoperative or invalid by reason of a defective or insufficient description or specification, * * * if the error has or shall have arisen by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, it shall be lawful for the Commissioner, upon the surrender to him of such patent, * * * to cause a new patent to be issued to the said inventor, for the same invention for the residue of the period, then unexpired, for which the original patent was granted, in accordance with the patentee's corrected description and specification." A subsequent part of the section declares that in case of the death of the patentee, or an assignment of the original patent, the right to surrender and to a reissue shall vest in the executor, administrator, or assignee.

The points of inquiry before the Court, as already stated, are: 1. Whether the essential requirements of the statute as to the reissues have been complied with. 2. Whether the inference of unfairness or fraud in obtaining the reissues, is sustained by the facts.

As to the first of these inquiries, it is insisted by the counsel for the complainant, that the decision of the Commissioner of Patents in granting the reissues, is conclusive, and that the Court can not look into anything that trans-

spired antecedently to the grant, to impeach the validity of the reissued patent. This is undoubtedly the settled law in this country, so far at least as the identity of the original invention, and the invention as described and claimed in the application for the reissue, unless fraud in the transaction is alleged. The Commissioner is supposed to have all the qualifications necessary to an intelligent decision of that question, and there are strong reasons why his action should be regarded as final. Such, I understand to be the doctrine of the Supreme Court of the United States, as announced in numerous reported cases. 4 How. 404; 15 How. 62; 17 How. 84; Law's Dig. 617. But I am not aware that the Supreme Court have decided in any case that it is not competent to inquire whether the Commissioner has exceeded his authority in granting a patent without a compliance with the requirements of the statute. He has clearly no power to dispense with what the statute declares to be necessary pre-requisites to the grant. And if it appears from the papers and records of the office in evidence, that the statutory requirements have not been complied with, it is within the power of a court, and its plain duty, to hold the patent to be void. Such was the doctrine announced by Judge Hall in the case of *Ransom* v. *The Mayor, etc. of New York*, Law's Dig. App. 57. The learned judge says: "things specified in this section (6th section of the Act of 1836) are pre-requisites to the granting of a patent, and unless these pre-requisites are complied with, a party sued for an infringement of the patent, may show that they have not been complied with, and in that mode defeat the action of the supposed inventor." The soundness of this doctrine can not be successfully controverted. It would be straining the doctrine of presumptions in favor of the legality of the acts of a public officer to an unreasonable extent,

to hold that a patent is legal and valid where the records and papers of the office show conclusively that essential statutory provisions had been disregarded.

Now, it is clear there were at least two of the important requisites of section 13 of the Act of 1836, before quoted, in relation to reissues, which were not complied with by the complainant in obtaining his reissues. 1. He does not aver in his bill, or make oath in his application, nor does it otherwise appear, that Steadman's invention as patented, was "inoperative or invalid," in the sense of those terms as used in the statute. The allegation in the bill is merely "that the description and specification of the said patented invention being defective and insufficient * * * said patent was by your orator returned," etc. Nor did the complainant in his application for a reissue make oath that the patent to Steadman was "inoperative or invalid" for any reason whatever. He swears "that he verily believes that by reason of an insufficient or defective specification, the aforesaid letters patent granted to T. S. Steadman, is *not fully valid and available to him.*" The statute requires as a condition on which a reissue shall be granted, that the original patent shall have been "inoperative or invalid by reason of a defective or insufficient description or specification, if the error has or shall have arisen by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention." The complainant did not make the oath required by the statute; nor was there any evidence before the Commissioner of Patents proving that the Steadman patent was "inoperative or invalid," for the reason stated in section 13, or for any other reason. And the reason why this oath was not made, and could not be made, is most obvious from the evidence before the Court. The patent to Steadman was not "inoperative or invalid" by reason of a defective or

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spired antecedently to the grant, to impeach the validity of the reissued patent. This is undoubtedly the settled law in this country, so far at least as the identity of the original invention, and the invention as described and claimed in the application for the reissue, unless fraud in the transaction is alleged. The Commissioner is supposed to have all the qualifications necessary to an intelligent decision of that question, and there are strong reasons why his action should be regarded as final. Such, I understand to be the doctrine of the Supreme Court of the United States, as announced in numerous reported cases. 4 How. 404; 15 How. 62; 17 How. 84; Law's Dig. 617. But I am not aware that the Supreme Court have decided in any case that it is not competent to inquire whether the Commissioner has exceeded his authority in granting a patent without a compliance with the requirements of the statute. He has clearly no power to dispense with what the statute declares to be necessary pre-requisites to the grant. And if it appears from the papers and records of the office in evidence, that the statutory requirements have not been complied with, it is within the power of a court, and its plain duty, to hold the patent to be void. Such was the doctrine announced by Judge Hall in the case of *Ransom* v. *The Mayor, etc. of New York*, Law's Dig. App. 57. The learned judge says: "things specified in this section (6th section of the Act of 1836) are pre-requisites to the granting of a patent, and unless these pre-requisites are complied with, a party sued for an infringement of the patent, may show that they have not been complied with, and in that mode defeat the action of the supposed inventor." The soundness of this doctrine can not be successfully controverted. It would be straining the doctrine of presumptions in favor of the legality of the acts of a public officer to an unreasonable extent,

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Now, it is clear there were at least two of the important requisites of section 13 of the Act of 1836, before quoted, in relation to reissues, which were not complied with by the complainant in obtaining his reissues. 1. He does not aver in his bill, or make oath in his application, nor does it otherwise appear, that Steadman's invention as patented, was "inoperative or invalid," in the sense of those terms as used in the statute. The allegation in the bill is merely "that the description and specification of the said patented invention being defective and insufficient * * * said patent was by your orator returned," etc. Nor did the complainant in his application for a reissue make oath that the patent to Steadman was "inoperative or invalid" for any reason whatever. He swears "that he verily believes that by reason of an insufficient or defective specification, the aforesaid letters patent granted to T. S. Steadman, is *not fully valid and available to him.*" The statute requires as a condition on which a reissue shall be granted, that the original patent shall have been "inoperative or invalid by reason of a defective or insufficient description or specification, if the error has or shall have arisen by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention." The complainant did not make the oath required by the statute; nor was there any evidence before the Commissioner of Patents proving that the Steadman patent was "inoperative or invalid," for the reason stated in section 13, or for any other reason. And the reason why this oath was not made, and could not be made, is most obvious from the evidence before the Court. The patent to Steadman was not "inoperative or invalid" by reason of a defective or

insufficient specification. The machine described by him, with the improvements claimed as his invention, was just as efficient for the purpose for which it was designed, viz: the "harvesting of clover and grass seed," as from the description of his mechanical devices it was capable of being. That it failed in its practical operation for that purpose, was not owing to any "defective or insufficient description or specification," but to inherent defects or infirmities in the structure, which prevented it from being practically useful for the purpose for which it was invented. And that it was not owing to any defect in his description or specification is proved by the fact that Steadman, after the machine failed on trial, never made an effort to perfect it by an amended specification. It is moreover apparent from the fact that the machine as described in the complainant, Whitely's, specification, upon his application for a reissue, was no more available as a harvester of clover and grass seed than when constructed according to Steadman's specification. There is no pretense that the complainant, after the reissues to him, ever constructed a machine according to his specification, or authorized any other person to make, use, or vend the machine under his patent. In fact, the presumptions, as will be noticed hereafter, are strong that he never intended to use the patented machine.

It is clear, therefore, that these reissues, for the reason stated, were not granted in accordance with the statute. The Steadman patent was not inoperative or invalid, in the sense of the statute; and the oath of the complainant that it was not "fully valid and available to him," is not the equivalent for the oath required by law. The statute embraces only the right to a reissue where from an unintentional error in the description of the invention, the patent is wholly "inoperative or invalid." It is not

enough that the applicant for the reissue should swear, or prove, that the patent is not *fully* valid and available to him. This does not meet the clear and explicit requisition of the statute; and it was an excess of authority on the part of the Commissioner to grant a patent upon such an oath.

There is, however, another fatal objection to these reissues based on the fact proved by the exhibits in the case, that no oath appears to have been made to the specification on which the reissues were granted. Neither Steadman the patentee, nor the complainant as assignee, has made such oath. The facts in relation to the application for the reissue, have already been referred to. They appear fully from the deposition of Peck, the Patent Office examiner, and the *fac simile* copies of the papers in the Patent Office. From these the proof is clear that the original specification was prepared by the complainant and sworn to in Ohio, before a justice of the peace of that state. It was forwarded to the Patent Office, and upon examination was found to be, substantially, an application for a patent for a *grain harvester and mower*, instead of an implement for gathering clover and grass seed as before noticed. The description of the alleged improvements was so palpably variant from the invention described by and patented to Steadman, that the examiner rejected it and ordered the entire paper to be cancelled, and every part of it was stricken out except the formal beginning and the conclusion. A new specification was then prepared as the basis of the reissues applied for, and filed as a substitute for the original. And the description of of the improvement, as contained in the substitute, was in many essential particulars, different from the original. But the substituted specification was not sworn to, either by the patentee or the assignee. I shall not here examine

or decide whether, upon an application by an assignee for a reissue, the patentee being alive and no reason being shown why he did not verify the specification by his oath, the oath of the assignee is a compliance with the statute. It is not controverted that the oath either of the assignee or patentee is required by the statute and by the rules of the Patent Office. And it results clearly, that the disregard of this statutory requirement invalidates these reissues. There are other exceptions to the reissues, on the ground that the pre-requisites of the statute have not been complied with, which I do not think it necessary to notice or discuss.

The important question whether these reissues were fraudulently obtained, and therefore void, is yet to be considered. If there is any doubt as to the correctness of the conclusion just announced on the question discussed, it would seem there could be none as to the fraudulent purpose of the complainant in procuring the assignment from Steadman, and in his application for reissues based on his patent. I do not propose the discussion of all the points in the case, connected with the question of fraud. There are some general aspects of the subject that seem entirely conclusive. There can be no doubt that the complainant procured the assignment from Steadman with full knowledge that the machine for improvements, on which the patent issued, was a machine for harvesting clover and grass seed, as the name in the patent indicated, and for nothing else. It may also be presumed that he was aware that for that purpose it was practically unavailable. The testimony on this point has been referred to in a previous part of this opinion, and need not be repeated here. The evidence is clear, that upon actual trial, Steadman's machine failed to answer the expectations of the patentee. No more than three of the machines were ever made by

Steadman; and the proof is, that the last trial of the machine took place in 1853 or 1854, when it was wholly abandoned as worthless.

Until the year 1860, it seems to have been, if not among the *lost arts*, at least among the *lost things* of earth. The complainant, by means not proved in the case, obtained knowledge of the existence of Steadman's patent, and in 1860, obtained an assignment. What consideration he paid, if any, does not appear. It may be presumed it was merely nominal. But the complainant was doubtless aware that although Steadman's invention was worthless for the only purpose for which it was intended, the patent was nevertheless valid, and could be assigned in law. There is no reason to suppose that the complainant, in procuring the assignment, intended to avail himself of the machine as a clover seed and grass harvester. This is apparent from the fact that he has not constructed, or authorized others to construct, the machine since the assignment. The irresistible inference, therefore, must be—and this inference is sustained by his subsequent conduct—that his intention was to surrender the patent, and by some artful change in the description of the machine, some additions to the devices described and claimed by Steadman, to obtain reissues enlarging the scope and operation of his invention, and thus to metamorphose the machine into a grain harvester; or, if that failed, so to change the specification as to cover certain elements and combinations then used, or to be used, in grain harvesters and mowers, or other machines; and thus to lay those constructing, vending, or using such machines, under contribution to him as infringers of his reissued patents. If such was the purpose of the complainant, his conduct was tainted with fraud from the beginning. And in confirmation of this, I quote the following from the opinion of

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the Supreme Court in the case of *Brooks et al.* v. *Fisk et al.*, 15 How. 220: "It is deemed proper to remark that the fact of procuring a patent for a new and useful machine in 1845, under the assumption of a reissue, which was not useful as patented in 1828 for want of feed and pressure rollers, now used as alleged in defense, would present a question of fraud committed on the public by the patentee by giving his reissued patent of 1845, date as an original discovery made in 1828, thereby overreaching similar inventions made between 1828 and 1845."

Now, it is clear that the facts do show that it was at first the design of the complainant, by means of reissued patents to be obtained under Steadman's patent for improvements in a clover and grass seed harvester, to acquire an exclusive right for an operative and practical grain harvester and mower, which should date back to the emanation of Steadman's patent of 1854; and, thus make all liable as infringers who, after that time, had used any of the parts or elements of the devices or combinations covered by his reissues. It clearly appears that in the complainant's original specification accompanying his application for reissues, such was his design. In that he designates Steadman's invention as a "harvesting machine," and he describes devices, and uses terms and forms of expression only applicable to such a machine. As already stated, this specification was rejected by the examiner of patents, and for reasons contained in his letter of April 19, 1860, in which he informs the complainant that "the description enlarges the scope of the invention so as to embrace other distinct improvements invented and subsequently patented by others." This was the exact case put by the Supreme Court in the case of *Brooks et al.* v. *Fisk et al.* before referred to, as constituting a fraudulent reissue.

It can not be denied that this was a very bold attempt, through a reissue, to practice a fraud on the Patent Office and the public. And as showing the animus of the complainant, it throws a cloud over his conduct as connected with this transaction. Though foiled in his purpose of metamorphosing the Steadman invention into a reaper and mowing machine, and getting reissued patents covering devices and combinations that never entered into Steadman's brain, and which he did not therefore claim, and some of which had been previously patented to other persons, he made another attempt by other means, to accomplish his purpose. His first application being rejected as wholly inadmissible, he filed another with the hope and intention, by an artful description of Steadman's patented invention, in which his claims were to be ingeniously modified, enlarged, and misstated, to convince the Patent Office that his claim to a reissue was for the "same invention," to obtain patents substantially embracing some of the important elements and devices of a grain harvester, then well known and extensively used. The object was palpable, namely: to subject those making, selling, or using such harvesters, or other machines with similar devices and combinations, to liability as infringers of his reissued patents. This is what Judge Grier, in delivering the opinion of the Supreme Court in the case of *Burr* v. *Duryee*, 1 Wall. 580, very aptly says is entitled to rank "*inter ingenuas artes.*" Strangely enoughhe succeeded in procuring from the Patent Office, no less than three reissued patents for alleged separate parts of Steadman's simple claims to improvements in a machine for gathering clover and grass seed by cutting, or more properly, pulling off the seed heads and depositing them in a box forming a part of the machine.

It is not proposed to analyze critically the claims covered

by Steadman's patent, as contrasted with those contained in the complainant's reissues. It will be enough to state them to convince any one that they are not identical and do not describe the same invention. It has been before noticed, that the two claims of Steadman's patent were: "First: The arrangement of the cutters in combination with the comb, operating in the manner and for the purpose described. Second: The rake *S* in combination with the cutters described." The third claim, which related to the devices for raising and lowering the machine when in motion, was rejected at the Patent Office as wanting novelty, and being covered by other patents. It is plain from this—and such is the evidence—that these claims pertained to a clover and grass seed harvester, and could not be used for any other purpose. But these simple claims are swelled into large dimensions under the ingenious manipulations of the complainant. In the reissue 985 he says: "What is claimed as the invention of the said Thomas S. Steadman, and is desired to be secured by letters patent, is the main frame or box *A*, which carries the pinion which drives the cutters, in combination with the arm or supplementary frame *J*, provided with the axle *t*, and the main wheel and gearing as described for the purposes specified. I also claim the arm or supplementary frame in combination with the master wheel and gearing when said arm or supplementary frame is so connected with the main frame as to vibrate from and around the pinion shaft, substantially as shown and described for the purpose set forth."

And in his claim for reissue 986, the complainant says: "What is claimed as the invention of the said Thomas S. Steadman, and is desired to be secured by letters patent is, in combination with the main frame or box *A*, an arm or supplementary frame *F*, on which is formed or secured

the master-wheel axle, the employment of a retaining arc *H*, or its equivalent, the whole constructed or arranged in such a manner that the main frame or box, and arm or supplementary frame with its master-wheel axle, will be held in parallel planes relatively to each other while they are moving up and down, substantially as and for the purposes herein set forth." There was a third reissue for another part of Steadman's invention not in controversy, and which need not be set forth.

Now, the proof is clear, that the improvements in the clover and grass seed machine, as patented to Steadman, and the entire machine with these improvements, was wholly incapable of performing the functions of a grain harvester or mower. The testimony of the witness Peck, and other witnesses, is explicit on this point. Yet the complainant in his specifications and claims, connected with his reissues, has described and claimed as the invention of Steadman, devices and combinations never conceived of by him. And this obviously for the fraudulent purpose of including devices and combinations used in perhaps all the grain harvesters and mowers in the country. I do not think it important minutely to compare the claims and devices of Steadman, as patented to him, and those described and claimed by the complainant as the basis of his reissues. That there is no substantial identity between them, sufficiently appears from reading the two. It is moreover apparent from the fact that Steadman, while the owner of his patented invention, never claimed or pretended, that it was infringed by any grain harvester or mower then known. From the date of his patent in 1854 until the reissue to the complainant in 1860, no such claim or pretense was set up by Steadman. Yet, the complainant now, under the sweeping reach of

his claims, and the allegation that they include Steadman's invention, and nothing more, has sued a vender of the Kirby grain harvester, as an infringement of his reissue. It seems clear to the Court that this is a fraudulent abuse and perversion of the statute regulating and allowing reissues.

It is gratifying to know that the Supreme Court of the United States have evinced, in their late decisions, a laudable determination to arrest the abuses and frauds which are of such frequent occurrence under the statute allowing reissued patents. In the case of *Burr* v. *Duryee*, 1 Wall. 577, Judge Grier, in giving the opinion of the court, says:

"The surrender of valid patents, and the granting of reissued patents thereon, with expanded or equivocal claims, where the original was clearly neither 'inoperative or invalid,' and whose specification is neither 'defective or insufficient,' is a great abuse of the privilege granted by the statute, and productive of great injury to the public. This privilege was not given to the patentee or his assignee, in order that the patent may be rendered more elastic or expansive, and therefore more 'available' for the suppression of all other inventions."

These remarks seem to apply with great force to the present case. No one can claim that under the original patent to Steadman there is a single element described by him, that is infringed by the Kirby grain harvester, and if by the "elastic or expansive" power of his reissues, he has succeeded in bringing that machine, and other similar machines, within the scope and operation of his patents, it is an abuse of the right of a reissue, equivalent to a positive fraud.

For the reasons stated, the complainant's bill must be

dismissed. I have not thought it necessary to inquire into or pass any judgment upon, the issues made in regard to the questions of infringement or novelty. The evidence on these points is voluminous, and in some respects conflicting. I have examined it carefully, but am not prepared to give a definitive opinion. Though I may say, that, as to the infringement alleged, the evidence at least renders it exceedingly doubtful whether it is made out.

I have only to add, in conclusion, that I am unwilling, unless the facts and the law imperatively demand it, to put into the hands of the complainant the opportunities which a decree in his favor would afford, of pursuing and annoying others for the alleged infringement of the rights secured to him by his reissued patents. I can not shut my eyes to these results. This bill asks for an injunction against the defendant to restrain him from selling the Kirby harvester, and for an account of profits. A decree against him as a mere vender of that machine, except as to costs, would not probably affect his interests to any very serious extent. But can it be doubted that with a decree in his favor in this case, establishing the legality and validity of his reissues, the complainant would at once proceed against all manufacturers, and all who vended or used the machine, unless they would pay tribute to him. Those who did not choose to submit to his terms, would be visited with injunctions, and otherwise annoyed, greatly to their injury and that of the public. The Kirby harvester is a very popular and useful labor-saving agricultural implement, and is extensively manufactured in various parts of the country. I can not consent to render a decree based on a claim of such doubtful equity as that asserted by the complainant, which in its results

may lead to the stoppage of these manufactories, and involve their proprietors in the most vexatious and expensive litigations. I am unable to perceive that the complainant has made out a case of such clear and palpable equity, as will justify a decree involving such consequences.

No. 243
Dec 94.

IN THE SUPREME COURT.

SUPREME COURT, UNITED STATES.

WILLIAM N. WHITELEY,
Appellant.
vs.
WILLIAM SWAYNE,
Respondent,

Brief and Points for Def't., Respondent.

This action is brought in equity. The complainant claimed that the defendant had infringed four several re-issued patents, two of which were re-issues to the complainant as assignee, upon the surrender of an original patent which was granted to John Locke Hardiman for "improvements for cutting hemp, millet and other grain." The other two were re-issues to the complainant as assignee, upon the sur-

render of an original patent which was granted to Thomas S. Steadman, May 23d, 1854, for "an improvement in clover and grass-seed harvesters." These re-issues were numbered 985 and 986, and were issued June 19, 1860.

3 The defendant denied the infringement of any of these re-issues, and set up various other defenses.

The cause was heard upon pleadings and proofs, by, and before, the Honorable Judge Leavett, of the Sixth Circuit, at Cincinnati, and the bill was dismissed with costs.

From the record it appears that a decree was entered for $ costs, and from that decree two different appeals were taken, see pp. 18, 19.

4 The following is the history of these Steadman patents:

1852, June 12th, Mr. Steadman filed a caveat, a copy of which will be found on page 51.

In January, 1853, he applied for a patent (fol. 62.) Diagram, page 62, is a copy of the drawings. Upon this application his claims were:

First—The combination of the comb and cutters, arranged and operated as herein described.

Second—The bar R, for the purposes described.

Third—the combination of the rake K, rods L L, rock-shaft M, rod N, and flies q q, arranged and operated, and for the purposes described. (Fol. 65.)

5

This application was rejected, and on the 23d of February, 1854, it was withdrawn (fol. 65, 66.) On the 4th of March, 1854, Mr. Steadman again applied for a patent, and on that day filed his model, petition and specification. (Fol. 140.) As the record is printed there is great confusion in regard to these applications. The same paper is printed twice, once as part of exhibit No. 1, (at page 81), and again as a part of exhibit No. 4; (at page 93.) That a part of exhibit 4 has been omitted is apparent from the testimony of Mr. Renwick. (fol. 159.)

6

As printed in the record there is no *third* claim. Nor is there any description, specification, or claim, or any

amended specification marked A, which forms part of exhibit No. 2, and which is referred to on page 110.

It also appears from the office letter of April 14, 1854, that a specification was filed containing three claims. (Fol. 140.)

The claims as they were finally passed, upon this application, and as they were in the original patent, were as follows: 7

First—The arrangement of the cutters in combination with the comb, operating in the manner and for the purposes described.

Second—The rake S, in combination with the cutters, as described. (Fol. 123–139.)

Mr. Steadman made a machine and undertook to operate it, but it proved a total failure. See the testimony of Frederick Hatch. (Fol. 110 to 114.) Nothing further was heard from him. We next hear of him through Wm. N. Whiteley, (the complainant), who, in March, 1860, applied for a re-issue of this Steadman Patent in three divisions, (fol. 127), and on the 19th of 8 June, 1860, the re-issues were granted.

Upon two of those re-issues, Nos. 985 and 986, this suit is attempted to be sustained.

The claims, as finally passed in these re-issues, are as follows:

In 985—

First—The main frame or box (A) which carries the pinion which drives the cutters, in combination with the arm or supplementary frame (J), provided with axle (t), and the main wheel and gearing, substantially as described for the purposes specified.

Second—The arm or supplementary frame in com- 9 bination with the master wheel and gearing, when said arm or supplementary frame is so connected with the main frame as to vibrate from and around the pinion shaft, substantially as shown and described for the purposes set forth. (Fol. 36.)

In No. 986 the claim is as follows:

"In combination with the main frame or box A, and arm or supplementary frame F, on which is formed or secured the master wheel axle, the employment of a retaining arc H, or its equivalent, the whole constructed and arranged in such a manner that the main frame or box and arm, or supplemental frame, with its master 10 wheel axle, will be held in parallel planes relatively to each other, while they are moving up and down, sub-

stantially as and for the purposes herein set forth." (Fol. 41.)

On the part of the Defendant, I submit the following

11 **POINTS.**

First.—These re-issues are void, for the following reasons: 1st, Because the Commissioner never acquired jurisdiction to consider the subject.

There are certain prerequisites required by the act of Congress, which must all be strictly complied with before a patent can be granted by the Commissioner of Patents to any one.

12 One of these prerequisites is, that the inventor shall make oath "that he does verily believe that he is the original and first inventor or discoverer of *the improvement* for which he solicits a patent, and that he does not know nor believe that the same was ever before known or used." Act of 1836, Sec. 6. And in case of the assignment of the invention before a patent is issued, the act of 1837, section 6, still requires that this oath shall be made *by the inventor*—for the very apparent reason that no one else can make it.

13 This oath of invention must necessarily be construed to apply, not to the whole description as contained in the specification, but only to the parts or combinations which are specifically claimed as new. Hence the oath of invention which was made by Mr. Steadman when he applied for the original patent, must be construed to apply to the claims which he *then* made. His oath could not be made to cover anything more. In the language of the act of Congress, he was required to "particularly specify and point out the part, improvement or combination which he claimed as his own invention or discovery." Act of 1836, section 6. He did so, and his oath was not intended to apply to any other part.

14 Now by reference to the particular parts in combination, as claimed by him, and to the particular parts in combination as claimed in these re-issues, it will be apparent that Mr. Steadman's oath that the one was his

invention could have no reference whatever to the other. See the different claims at folio 7 and 8 of this brief.

The counsel for the complainant will insist that this oath must apply to the claims in the re-issues, because the Court must *presume* that the re-issues were granted for parts of the thing *originally patented*. But I submit, the Court can make no such presumption, when the contrary *fact* is so apparent.

15 2d. Because there was no proof before the Commissioner that the original patent was inoperative or invalid for any reason whatever. Before any re-issue can be granted it must be made to appear to the Commissioner that the original patent is "inoperative or invalid by reason of an insufficient or defective specification, or by reason of the Patentee claiming in his specification as his own invention more than he had a right to claim as new; which defect has arisen through inadvertency, accident, or mistake, and without any fraudulent design on the part of the patentee." Act of Congress, 1836, section 13.

16 Now I submit, that there was no such proof whatever before the Commissioner in this case. The only allegation in the affidavit of Mr. Whiteley in regard to this is, "that he verily believes that by reason of an insuf-"ficient or defective specification, the aforesaid Letters "Patent, which was granted to T. S. Steadman and as-"signed to him, is not fully valid and available to him; "and that the said error has arisen from inadvertence "accident, or mistake, and without any fraudulent or de-"ceptive intention, to the best of his knowledge and be-"lief." (Folio 131.) And this was the only proof before the Commissioner.

17 At this time, as appears from the record, Mr. Steadman was living, and there is no reason whatever given why he did not make the oath of invention, and also the oath of inoperativeness, and no reason in fact existed, except that he could not truthfully make either.

The allegation in the affidavit of the assignee that the Patent "is not fully valid and available to him," is the sheerest evasion of what is required by the Act of Congress. The remarks of Justice Grier, in the hat-body case, (Burr vs. Duryea, 1 Wallace 577), is entirely applicable to this case, wherein he says: "The surren-"der of valid Patents, and the granting of re-issued 18 "Patents thereon, with expanded or equivocal claims, "where the original was clearly neither inoperative nor "invalid, and where the specification is neither 'defective

"nor insufficient,' is a great abuse of the privilege granted by the statute, and productive of great injury to the "public. This privilege was not given to the Patentee "or his assignee, in order that the Patent may be rendered more elastic or expansive, and therefore more "'available' for the suppression of all other inventions." Words most wisely, timely and fitly spoken; and if
19 given their just weight by the Courts, will tend greatly to relieve the public from being swindled by these "more available" re-issues. This case was followed in the corn-planter case. Case vs. Brown; 2 Wallace 320.

SECOND.

In regard to these re-issues, Nos. 985 and 986, the applicant fraudulently endeavored to obtain a patent for
20 what he knew was not embraced in the original patent, and for that which he knew never was claimed by the original Patentee as his invention.

And the fraud was so evident that he was obliged to cancel the *whole specification*. See his letter to the Office, of June 4, 1860. (Fol. 127.) And although this canceled specification has not been printed in this record, notwithstanding a copy of it was before the Circuit Court, yet we learn from the witness Peck
21 some of the *expansive* phrases which were attempted to be inserted. He says: "I examined those re-issues, "and required, before allowing the patents to pass for "issue, amendments and alterations of the specifications "and claims. I returned the specifications for restrictions and limitations of the alleged scope of the invention as set forth therein. I required the title of the invention to be changed from improvements in 'harvesting machines' to improvement in 'clover and grass seed "harvesters,' because this was the original title, and because the machine was so constructed as to be incapable "of the functions of harvesting grass or grain as a reaping or mowing machine. The word 'harvesting' was
22 "rejected for the same reason. The word 'box' was required to be inserted for 'body or main frame;' a part "of the description alleging that the machine was capa-

"ble of operation as a harvester, and that it was within
"the scope of the invention to leave out one of the gear-
"ing wheels, was also rejected. 'Finger-bar' was also
"rejected by the decision of the Office. That part of the
"description which conveyed by implication the idea
"that a single main-wheel, a single arm or supplementary
"frame, and a single arc for guiding the supplementary
"frame were alone capable of operating the machine, was 23
"rejected and canceled as new matter, involving a dif-
"ferent invention from that embraced in the original
"record of the Patent. The sentence 'for cutting the
"stubble of an even length' was rejected and canceled.
"A part of one of the specifications, alleging that one of
"the arms or supplementary frames forms no part of the
"application, was rejected and canceled. The allegation
"that one of the main wheels was a 'grain wheel' was
"rejected, because if the machine were used for harvest-
"ing grain as a reaper, said wheel would travel in the
"uncut grain and break it down, instead of traveling on
"the stubble, as is the case with the grain wheel proper 24
"of a reaping or mowing machine. Some of the reasons
"for the rejection of these and other parts of the specifi-
"cations are contained in the Patent Office letter dated
"April 19, 1860, and written by me at that time. The
"necessity of these restrictions of both of the specifica-
"tions arose from the nature and purpose of the inven-
"tion, as found described and illustrated in the original
"records, which includes specifications, drawings and
"models of the Patent granted T. S. Steadman," etc.
(Fol. 90.)

I submit, that if it be possible to prove a fraudulent
design, it has been proved by this testimony; and the 25
fact that the attempt is now made by this suit thus to
convert this clover-head puller into a grain-harvester,
strengthens this proof; and see the diagrams now be-
fore the court, whereon is printed "T. S. Steadman's Im-
provements in Harvesters." Thus still attempting to
carry out the same fraudulent design.

The *governing* object of the invention has *now* be-
come, as described by the plaintiff in *his* specification,
so to arrange different parts, "that said main-frame may
"be raised and lowered and held at different heights,
"relatively to the master wheel axle, and so that said 26
"main-frame, and supplementary frame, shall both vibrate
"relatively to each other around a common center, which
"is co-incident with the axis of the pinion shaft."

Whereas the governing object of Mr. Steadman in arranging the same parts was, to use his own language, "By this arrangement *either side* is raised, or both sides "raised and lowered to suit the circumstances even when "the machine is in motion; and the wheels being left "free to play *down* from the levers when the box is raised, "the wheels keep to the ground when the box passes over
27 "*stones* or other *obstacles*, which is an important feature "of this machine."

No one reading these two results to be obtained, would suspect that they could be produced by the same machinery; or that they were descriptive of the same machine; nor is such the fact. The Plaintiff in this part of his specification leaves out all reference to the *raising levers;* whereas *these* were the main features of this part of Steadman's machine, and the *only* portion of these parts which *he* claimed as his own invention. In fine, the machine which was perfectly well and plainly described by Steadman as a "Clover and grass-seed Harvester," and which no one could mistake for anything else,
28 has become, under the description *made for it* by the plaintiff, a grain harvester and grass mower, which no one would ever mistake for a "clover puller" or "grass seed gatherer."

Nor can any one doubt the intention of thus re-modeling and entirely re-writing this specification. It is well expressed in the office letter of April 19th, 1860, (p. 88,) wherein it is said "The specification in your applications A. B. and C. for the re-issue of your Patent No. 10,967, are herewith returned for amendment. The description enlarges the scope of the invention so as to
29 embrace other distinct improvements invented and subsequently patented by others." The very reasons stated by the Court in the case of Brooks vs. Fiske (15 How. 220,) which will avoid a re-issue as having been fraudulently obtained.

But notwithstanding this warning from the Patent Office, which was so far noticed as to induce the applicant to abandon his specifications which were thus returned, yet the new specifications were, *in fact*, fully as objectionable and for precisely the same reasons, but the applicant succeeded in obtaining his re-issue notwithstanding.

30

THIRD.

These patents (Nos. 985 and 986) are void, because

they were granted for that which formed no distinct or separate parts of *the thing patented* to Mr. Steadman, and that fact appears *upon the papers*, and therefore it was fraudulently obtained.

I suppose, *prima facie*, the Court will presume the reissue to be for a part of THE THING PATENTED. But no Court can wink so hard as TO REFUSE to see the light. 31

The act of Congress gave the Comr. of Patents power to grant re-issues in certain specified cases, and for certain specified causes. When he exceeds the authority thus given him, his acts are void—and the Courts must examine his acts when the rights of parties, STRANGERS TO THE PATENT, depend thereon, and if found unauthorized, set them aside. He possesses no judicial power, nor can Congress clothe him with any.

To see that the claims patented in these reissues form no part of THE THING, that is to say, the IMPROVEMENTS PATENTED to Mr. Steadman, we need only to examine the several claims in the different Patents. For the claims for which the original patent was granted, see fol. 3 of this brief. For the claims in these re-issues, see Record, fol. 36 and 41. 32

In the original, the claims are very properly restricted to parts of a Clover puller. In these re-issues they have been fraudulently expanded by description in the specifications, as well as by expanding the claims, so as to claim that they apply to Harvesters and Mowing Machines.

See Judge Grier's opinion in the Hat-Body case 32
Burr vs. Duryea.
Brooks vs. Fiske. 21 How, 220.
Case vs. Brown. 2 Wallace, 320.

FOURTH.

These re-issues are also void, because granted to the plaintiff as assignee of Steadman, for that which never was assigned to him, nor pretended to be by Steadman.

Conceding that Steadman was, in fact, the original and first inventor of the COMBINATIONS claimed by the Plaintiff in this re-issue, no one will contend that he WAS BOUND to apply for a patent therefor. 33

We have shown that HE never in fact DID apply for a patent therefor. Then by what authority does the Plaintiff claim a Patent therefor?

His Counsel will doubtless answer—By virtue of Steadman's assignment to him!

We will therefore examine that assignment as described by the Plaintiff, in his answer. (IT IS NOT IN
35 EVIDENCE.)

In his application for this re-issue, Plaintiff states, by way of recital, as follows: "That said Letters Patent "were, on the 27th day of December, 1859, assigned, "sold and set over unto your Petitioner, who is now by "virtue of the said assignment vested with the sole and "legal right, title and interest to and in said Letters "Patent." (Fol. 131)

In his bill of complaint in this action the Plaintiff states, by way of recital as follows: "And the said invention so PATENTED TO SAID STEADMAN, and his said patent therefor having been in due form of law wholly
36 assigned to your Orator," &c. Fol. 3.

Now if the combinations claimed in this re-issue, No. 985, never was, in fact, PATENTED TO STEADMAN, it is very plain that they never were assigned by him to the Plaintiff, for the Plaintiff does not state any where, even by way of recital, that Steadman's assignment covered, or was intended to include, any other invention or improvement than that "PATENTED to said Steadman," and as we have clearly shown that the combination claimed in this re-issue, never was, in fact, patented to him, it follows, necessarily, that the plaintiff had no claim to this re-issue, nor had the Comr. any pretence
37 of authority to grant it to him, and the granting thereof was therefore a fraud upon the public, and the patent is for that reason void.

For the construction of an assignment,

See Gibson vs. Cook, 2 Blatch 146.
And cases cited in Laws Digest, p. 324.

FIFTH.

Re-issue No. 986 is also void, because the parts combined
38 cannot produce the results claimed in *Plaintiff's machine*.

1st. The plaintiff in his specification upon which the patent finally issued says—This invention relates to "that

description of machine in which the MAIN FRAME carrying the cutting apparatus, and the MASTER WHEEL, which *drives* the cutters, are capable of *moving* up or down, *each independently of the other*, as the machine "moves over the SURFACE of the ground." Fol. 37.

We submit that the machine described by Steadman, and as shown in his model and drawings, and as made by him, was not of THAT DESCRIPTION OF MACHINE AT ALL.—His MAIN FRAME and MASTER WHEEL were not CAPABLE of *moving up or down each independently* of *the other*, as the machine moved over the "surface of the ground." If it had been, there would have been no occasion for the only contrivance Steadman ever claimed as his invention, in relation to the raising or lowering of his *box*, to wit, the levers. 39

It is fraudulent thus to mis-describe the Steadman machine. It is true that that machine was capable of *being moved* in the way described, but *only* by means of the levers, and not by any contrivances made to enable those parts *to move independently*, or *self-adjustingly*, for the simple reason that the box *always* rested upon the *levers*, and the levers always rested upon the axles of these wheels—(see model.) 40

2nd. Again the Plaintiff in that specification says: "so that the cutting apparatus may ADAPT ITSELF to the unevenness of the ground over which the machine travels, while at the same time the MASTER WHEEL * * may likewise follow the undulations of the ground's surface," &c. Fol. 38.

This is also a false and fraudulent statement, inasmuch as Steadman's machine, as described by him, and as represented in his model, and as made by him, could do no such thing. For in his machine, it could not be operated AT ALL with the cutting apparatus, or the box, passing along upon the surface of the ground. It was never permitted to run with the LEVERS LOOSE, nor could it operate as a working machine when in that condition. 41

See answer of Mr. Hatch to questions 20, 21, 46. Fol. 112, 114.
" " Mr. Peck to question 15. Fol. 89.
" " Mr. Elliott to question 58. Fol. 76.
" " Mr. Renwick to question 10, 11. Fol. 160, 161.

And no witness pretends to the contrary.

3d. Again Plaintiff pursues the same idea when he says, "the invention which constitutes the subject of this application consists of so connecting the main 42

frame or box of the machine to which the FINGERS are attached, to the arm or supplemental frame, on which the MASTER wheel axle is formed or fastened, that each shall be kept always parallel with the others, while each is allowed to move UP AND DOWN *independently of the other.*" Fol. 38.

4th. And again he says—"These and the ends of the
43 arm 'F and G,' are held parallel with the main frame 'A,' and guided in moving up and down by the side of the frame or box, by guide plates '*H* and *I*' fastened to the main frame or box, which forms with the frame a groove in which each arm is held, as the main frame raises and lowers, WHILE THE FINGERS THERETO ATTACHED, PASS OVER UNEVEN SURFACES." Fol. 39.

In this short extract, there are at least two mis-statements.

1st. It is stated that the arms are held parallel with the main frame, "as the main frame RAISES and lowers."

2nd. It is represented that "the FINGERS thereto
44 attached, (meaning attached to the box or frame,) pass over uneven surfaces."

The whole sentence is intended to carry the idea of *independent* motion and SELF-ADJUSTIBILITY of the two frames WHEN THE MACHINE IS IN OPERATION, which, as is shown above, is utterly impracticable in the Steadman machine, and in direct contradiction to that part of Steadman's description wherein he describes the operation and effect of these same parts. He says: "In order that these machines be adapted to the varied circumstances under which they have to be used, it is necessary that they be so constructed that they (that is the
45 MACHINES not the FINGER BAR,) CAN BE CONVENIENTLY RAISED AND LOWERED even when in motion." Fol. 122. He then describes those parts which allow this to be done, *including the* LEVERS, which are so studiously omitted by the Plaintiff—and concludes as follows: "By this arrangement, (that is by the arrangement of "the levers) either side is RAISED, or both sides RAISED "and LOWERED, to suit circumstances even when the "machine is in motion, and the wheels being left free to "play *down* from the LEVERS when the BOX IS RAISED, "the wheels keep to the ground when the *box* (not THE "FINGERS) passes over STONES or other OBSTACLES, which
46 "is an important feature of this machine." (Not of "this *invention.*) Fol. 122.

Thus it will be seen the machines described by Mr.

Steadman, and that described by the Plaintiff, are entirely different — Mr. Steadman was describing his machine, and describing it truly and correctly as one in which *the box* could *be* raised or lowered, by means of THE LEVERS: but not as a machine in which the two frames could be SELF-ACTING, INDEPENDENTLY as described by Plaintiff.

Mr. Steadman described his machine, as one in which 47
the front end of THE BOX could *be* raised *by* MEANS of the LEVERS, so that *it*, (that is the *box*) could pass over stones or other obstructions—whereas the Plaintiff describes the machine as one in which the two frames are SELF-ADJUSTING, and for the purpose of allowing "THE FINGERS" to pass over UNEVEN SURFACES—a thing never dreamed of by Mr. Steadman—not shown in his specification, drawings, nor model, but the reverse appears from all of them—as also from the testimony.

See testimony of Mr. Hatch, in answer to question 20, 21, 22, 46. Fol. 112,-114.

Mr. Steadman knew the machine could never operate 48
except when THE LEVERS were IN USE. The Plaintiff ignored the use of the levers altogether. Mr. Steadman claims the levers as his invention, and *no other part* of the raising and lowering apparatus. The Plaintiff claims an *independent* self-adjusting action of the two frames *when not controlled by the* LEVERS, which does not belong to Steadman's machine at all, and cannot be applied to it. In fine, Mr. Steadman was honestly trying to perfect a machine for *pulling off* the heads of clover or other grass—whereas the Plaintiff is trying fraudulently to transform this clover puller, into a grain harvester and grass *mower*, so as to levy black 49
mail by means of a Patent fraudulently obtained upon all who use these implements, and we rely upon the Court to prevent the consummation of his evil design.

SIXTH.

This patent (986) is void, because the claim is for a combination which forms *no part of the thing patented* to Mr. Steadman.

The only "improvements," or "inventions," or "thing," 50
patented to him, were

1st. The arrangement of the cutters in combination

with the comb, operating in the manner, "and for the purposes described."

2nd. The rake "S," in combination with the cutters "as described."

Now we submit, that it is an absurdity to pretend that the combination claimed in this re-issue (986) is in the language of Sec. 5, of the act of 1837, distinct and
51 separate parts of THE THING patented, when no single feature or function embraced in THIS combination is found in the claims embraced in the original patent. The combination embraced in this re-issue (986) embraces the following parts:

1st. The main frame or box "A."

2nd. The arm or supp'emental frame "F," on which is formed or secured the master wheel axle.

3d. The employment of a retaining arc "H," or its equivalent.

And the whole so constructed, and arranged in such a manner, that the main frame or box, and arm or sup-
52 plemental frame with its master wheel axle, will be held in parallel planes relatively to each other while they are moving up and down, substantially as and for the purpose herein set forth.

No one can read the claims AS PATENTED by Steadman, and this claim as embraced in re-issue 986, without being at once convinced that they are in no wise the same, nor is either any part of, nor in any wise connected with the other, and in fact, the Plaintiff is in this action attempting to prove that a machine which does not contain a single part embraced in the claim as patented to Steadman, is an infringement of this re-
53 issue (986.)

We therefore repeat, that the pretence that this re-issue (986) is for a part of the THING patented to Steadman, is an utter absurdity.

And we further submit, that for that reason the issue of this Patent was a fraud upon the public, and wholly unauthorized, and therefore void.

See opinion of the Court in the Hat Body case.
" also Brooks vs. Fisk, 15 Howard at p. 220.
Case vs. Brown, 2 Wallace 320.

54

SEVENTH.

The original patent, had it been granted to Steadman for the same claim embraced in Re-issue 986, would have been void, for want of novelty.

55

1. Because—The invention of Byron Densmore antedates him. The particular improvements or combinations *claimed* in this re-issue are as follows:

"In combination with the main-frame or box (A,) and arm or supplementary frame, (F,) on which is formed or secured the master wheel axle, the employments of a retaining arc (H,) or its equivalent; the whole constructed and arranged in such a manner that the main frame or box and arm or supplementary frame with its master wheel axle, will be held in parallel planes relatively to each other while they are moving up and down, substantially as and for the purpose 56 herein set forth."

In regard to dates, the papers in evidence show the following:

April 28th, 1852—Steadman dates his Caveat.

May 12th, 1852—The Caveat was filed.

This was followed by an application and specification which was sworn to, January 26, 1853. This application was rejected and was withdrawn by letter bearing date, Feb. 23d, 1854.

Steadman then made a new application, the specifications being sworn to, Feb. 22nd, 1854.

That was received at the Patent Office and filed 57 March 4th, 1854.

And a Patent was issued to him, May 23d, 1854.

This Patent is the original, in the place of which Nos. 985 and 986 were re-issued.

Frederick Hatch in his testimony, thinks Steadman made his first machine *about* 1850, and made one each year for three years. That this witness was mistaken as to the year is quite apparent. In answer to question 17, this witness says Steadman's first model was made BEFORE HE MADE HIS FIRST MACHINE.

The files of the Patent Office show that the first model (rejected) was received there Feb. 5th, 1853. 58

Byron Densmore, a witness for Defendant says he assisted Steadman in making out his first application, and

the application itself shows that he was the *only* witness to Steadman's first application, and that was sworn to Jan. 23, 1853, and was received at the Patent Office at the same time with the first model. Fol. 172.

Hence I think we may safely assume that Steadman's first experiments were made about the time he filed his Caveat in 1852.

59 But if we are to judge of his machine AS THEN IN HIS MIND, by the language used by him in his Caveat, it did not *then* embrace anything like the claim made in this re-issue (No. 986)—see what he says in that Caveat about raising and lowering the COMBS. Fol. 78.

In that DESCRIPTION his "ARM" was fastened to the side of *the box*, by a bolt passing through a SLOT cut through the side of the box, and fastened by a nut inside the box. "To raise the machine, the bolt that "holds the bar to its place is loosed, then raise on the "back end of the lever, and the axle of the DRIVING
60 "WHEEL is forced down on the side of the BOX and THEN "FASTENED by the bolt; being thus HUNG, the MACHINE is "raised and lowered to suit any circumstances WITHOUT "INTERFERING WITH the MESH of the COGS." Fol. 79.

But there was NO RETAINING ARC. The FRONT END of the lever was a segment of a circle with cogs upon it which meshed into corresponding cogs in the BACK END of the "BAR" (now called the "ARM OR SUPPLEMENTARY FRAME.")

Nor was there any contrivance "to hold the MAIN "FRAME, or BOX and BAR OR ARM OR SUPPLEMENTARY "FRAME with its master wheel axle in PARALLEL PLANES
61 "relatively to each other while they are moving up and "down as is now claimed in this re-issue" (986). On the contrary, when the BOLT, which went THROUGH THE BOX, was loosened, the BAR, (now the ARM) would necessarily recede from the BOX more or less—at any rate there was no contrivance of any kind to hold or prevent it from so doing. In this respect it was precisely like the English Patent (model No. 4,) Johnson's.

Nor could the "BAR" (now the "ARM") be moved when the machine was in motion, as is SO PARADINGLY set forth in the specification to this patent. For when in operation this "bar" (now the "ARM") was held rigid
62 to the box by the bolt.

Hence, as late as April 28th, 1852, Steadman had not thought of the RETAINING ARC, or that his box or cut-

ting apparatus COULD be raised or lowered WHILE the MACHINE WAS IN MOTION.

That idea he probably received from seeing Byron Densmore's reaper in operation in 1852. Steadman then lived at the village of Holly, 5 miles only from Brockport, where Mr. Densmore made his machine, one of which was sold to Mr. Hurd, and used by him in the harvest of 1852, at the village of Holley, Steadman's 63
place of residence, and it is but charitable to suppose that this was the reason why Steadman himself, NEVER CLAIMED THIS FEATURE AS ANY PART OF HIS INVENTION. See Mr. Densmore's testimony in answer to questions 7 to 13. Fol. 171–172.

From the foregoing facts, it follows, I think, conclusively, that in examining the question of novelty we must assume that STEADMAN did not suppose he had invented what is claimed in re-issue 986, until after he filed his Caveat, nor until after his first specification was sworn to Jan. 26th, 1853. But Byron Densmore's specification was sworn to Dec. 31st, 1850, and was re- 64
ceived at the Patent Office Jan. 10th, 1851. Fol. 171.

And his Patent was issued Feb. 10th, 1852; nearly three months before the date of Steadman's caveat; and he made and tried one of his machines in 1850, and cut some ten to twenty acres with it. In 1851 he made 21 of them. Fol. 171.

In 1852 he made from 40 to 60 of them, and exhibited a machine at Springfield, Ohio, at the trial of Reapers there; and at Geneva, New York, at a trial of Reapers there in July of that year (1852.)

See his answer to Questions 3 to 6. Fol. 171.

65

So that the proof shows that this same combination was publicly used by Mr. Densmore some three years before it was described by Steadman.

Mr. Densmore used his machine as a mower the next season after the reaper trials, which would be in 1853.

To change from a reaper to a mower he "left off the "platform and took out the bolts that bolted the forward "ends of the upper frame to the standards which con- "nected it with the lower FRAMES SO AS TO LEAVE IT TO "PLAY FREELY." Fol. 174.

And the only difficulty found to exist, was the WANT OF SPEED IN THE CUTTERS—(answers to questions 66
27, 28, 29.) That the Densmore machine contained the same combination claimed in re-issue 986.

See answer of Mr. Renwick to ques. 17 to 19, 42, 43, 44. Fol. 165–169.
Mr. Clough to ques. 32, 34, 37, to 47. Fol. 59–60.
Mr. Elliott, to ques. 38 to 53. Fol. 74.
See also the model of the Densmore machine—(Defts. model, No. 3.)

It is true that Mr. Elliott, when asked "to compare Defendant's model, No. 3, 4 and 5, with the improvements DESCRIBED AND SPECIFIED in re-issue No. 986, and to state whether in his opinion the improvements specified in said re-issue, and those illustrated in the model agree in principle and mode of operation." (Ques. 4.)

67

In regard to model No. 3, (Mr. Densmore's model) answered: "Inasmuch as said re-issue specifies a main frame, and a supplementary frame carrying the master wheel, and a retaining arc TO HOLD ITS VIBRATING END parallel with the main frame and permit it at the same time to vibrate freely in parallel planes with the main frame AND AROUND A POINT AT THE PINION SHAFT. And inasmuch as I do not find in model No. 3, a supplementary frame so arranged, but one which vibrates at the opposite end from that specified, I therefore conclude that they are substantially different from the improvement specified in said re-issue." Fol. 67.

68

Is this the testimony of a fair and candid witness, standing indifferent between the parties, or is it the testimony of an EXPERT witness, who is an EXPERT at MAKING a case for his employer?

The ONLY difference he can find between the "IMPROVEMENT specified in said re-issue and that illustrated in the model No. 3," is that the supplementary frame in the re-issue vibrates "AROUND A POINT AT THE PINION SHAFT" whereas the supplementary frame in model No. 3, "vibrates AT THE OPPOSITE END FROM THAT SPECIFIED," and he concludes by saying: "I THEREFORE CONCLUDE that they are substantially different from the IMPROVEMENT SPECIFIED in said re-issue."

69

Now when we find, by referring to the specifications that "the INVENTION which constitutes the subject of THIS APPLICATION." is therein described without one word in regard to this matter of vibrating "AROUND A POINT AT THE PINION SHAFT."

And again, when we refer to the claim, which must govern in this case; and which is the *only* part of the specification which pretends to "PARTICULARLY DESCRIBE and point out *the improvement*" for which a Patent was asked for, and issued, and find that this peculi-

70

arity of "VIBRATING AROUND A POINT ON THE PINION SHAFT" is not even hinted at, and in fact has no connection whatever with THIS CLAIM, we may suspect that this witness was MAKING, instead of *giving* evidence.

And when we refer to the second claim of re-isues 985, and find that this peculiarity of the supplemental frame vibrating AROUND the PINION SHAFT is one of the *elements* of that combination, charity would lead us to 71
ascribe the misstatement of the witness to "INADVERTENCE, ACCIDENT OR MISTAKE."

But when we further find him, in answer to the cross interrogatories, evading the questions, answering as to matters to which he was not interrogated, and in many ways showing that he was a partisan expert, and not a fair and candid witness—taking all these things into consideration, we submit that his testimony should not have *much* weight AGAINST the Defendant. However, we are willing to give him full credit when he testified in answer to questions 38, 39, 40, and 41, affirmatively showing that model No. 3, illustrating the Densmore 72
machine did in fact embrace *every* element contained in the combination claimed by re-issue 986. Fol. 74.

Mr. CLOUGH, the other expert witness, called by the Plaintiff, when asked to compare the Densmore model with Plaintiff's description in his specification to 986, did not find the same difference found by Mr. Elliott. But *he* found a difference, which he stated in answer to question 10, (fol. 48,) but which he most effectually TOOK BACK in his cross-examination in answer to questions 33 and 34. This witness also, on his cross-examination, in answer to questions 37 to 42, proved affirm- 73
atively that the Densmore model did embrace every element and combination PATENTED in re-issue 986. Fol. 58.

2. Frederick P. Root's Patent for his "Cultivator" antedates Steadman. It was granted June 8th, 1852.

His model was filed January 23d, 1851; more than a year before the date of Steadman's caveat.

This model contains the same combination as that claimed in re-issue 986, and was filed more than three years before Steadman ever described any such combination.

That this cultivator contains the same elements and 74
the same combination,

See the model thereof,—defendants' model, No. 5.
" Mr. Clough's answer to questions 43 to 47. Fol. 60.
" Mr. Renwick's answer to question 19. Fol. 166.
" Mr. Elliott's answer to questions 42 to 53. Fol. 44.

To show the FAIRNESS of the witness, Elliott, I will here refer to the questions asked him, and the answers thereto in regard to this model. Ques. 4, 14, 15, 19, 42, to 53.

75 The answers of the witness Elliott to these questions form a marked contrast with the testimony given by Mr. Clough, the other expert witness called by Plaintiff when interrogated upon the same subject. I subjoin his evidence to show the contrast.

Q. 43. Please look at Defendants' model No. 5. State if you find therein a main frame?

A. I do.

Q. 44. Do you also find in said model a supplementary frame on which is formed or secured the master wheel axle?

A. I do.

76 Q. 45. Do you also find in said model the employment of a retaining arc?

A. I do.

Q. 46. Do you find those parts in combination?

A. I do.

Q. 47. Do you find them constructed and arranged in such a manner that the main frame, and supplementary frame with its master wheel axle will be held in parallel planes, relatively to each other while they are moving up and down?

A. I do.

77 There was no evasion on the part of this witness about a "master wheel." No technical "driving wheel," or "carrying wheel," but the answer came fair, honest, and prompt, and showed clearly that Root's Cultivator embraced precisely the same combination Patented in re-issue 986, and that that combination produced precisely the same result in Root's Cultivator, as the same combination produced in Steadman's "Clover Harvester," that is to say, the combination as used in both machines so arranged "that the main frame and arm or supplementary frame with its master wheel axle, will be held in parallel planes, relatively to each other while they

78 are moving up and down."

EIGHTH.

The defendant has not infringed Re-issue No. 986.

The claim in that re-issue is as follows:

"In combination with the main frame or box A, and
"arm or supplementary frame F, on which is formed or
"secured the master wheel axle; the employment of a
"retaining arc H, or its equivalent; the whole construc- 79
"ted and arranged in such a manner that the main frame
"or box, and arm or SUPPLEMENTARY FRAME, with its
"master wheel axle, will be held in parallel planes rela-
"tively to each other, while they are moving up and
"down, substantially as and for the purpose herein set
"forth." Fol. 41.

I. Although defendant uses a main frame, yet it is not *the* main frame or box of the plaintiff, nor anything equivalent thereto, but in the language of Mr. Peck, in answer to question 5, "the main frame differs substan-
"tially from the frame or box A, described in said re- 80
"issued patent, No. 985. The difference consists in the
"construction and the functions which they are capable
"of performing; the one (defendants') being a mere
"skeleton frame, arranged between the driving wheel
"and the cutting apparatus, for the purpose of connect-
"ing them, and carrying the principal part of the gear
"ing. The other (plaintiffs') being a wooden box ar-
"ranged between two large wheels, with a comb of teeth
"fastened to its front end, for the purpose of gathering
"clover and grass seed, which is deposited in the box
"when the machine is in operation. They are incapa-
"ble of successfully performing the same functions in the
"field, being only adapted for different kinds of work." 81
Fol. 85.

(And see his answer to question 11.)

In fact, defendants' table or platform, upon which the grain falls, is very much more like the plaintiffs' box A, than is the main frame of his machine; for they do have a common function, to wit, the one that of receiving the cut grain, and the other to receive the *pulled* clover and grass heads.

II. Although defendants' machine also has an arm or supplemental frame provided with an axle, yet it differs very materially from WHAT IS CALLED the arms or supplemental frame of plaintiffs' machine. 82

Mr. Peck, in answer to question 6, shows that difference very plainly. He says:

"I do find in machine No. 3,099, a supplementary "frame, differing in form and some of its features from "the arm or supplementary frame described in said re-"issued patent." The difference consists in its structure, "by which it serves as a guard of the gearing, namely, "that on the main wheel and the small pinion with which "it meshes, and in its capacity to govern the operation "of the machine in its vertical vibrations, WHICH ALLOW "THE FINGER BAR TO FOLLOW THE UNDULATIONS OF THE "GROUND. These peculiarities of construction are not "found in that re-issued patent. The machine which it "describes requiring two supplementary frames, AND "THESE ARE BOTH ESSENTIAL TO ITS OPERATION." Fol. 85. (See his answer to question 12.) Fol. 88. See also Mr. Renwick's answer to question 13, (last paragraph.) Fol. 163.

This difference can be seen by a glance at the models of the two machines, and it can also be seen that the difference is substantial.

84 III. And although there is a retaining arc found in use in defendants' machine, yet it differs essentially in function from that found in complainants' clover harvester. Mr. Peck in his answer to question 13, says upon this subject: "It does differ in form, and in some of its functions, as A SEPARATE AND independent device; the retaining arc in each of the machines referred to is of a segmental or curved form; and each serves as a guide in the adjusting of the supplementary frame; they are not, however, fully equivalents as mechanical devices, either in construction or in their operation. The machine described in the re-issue No. 986, would be incapable of operation, where the single retaining arc of the machine No. 3099 applied to it, because its construction is such that it requires for effective use two segmental arcs or guides, one on each side of the main frame or box with which they are combined, AND THE MAIN FRAME OR BOX IS A NECESSARY FEATURE to constitute, with the two arcs or guides, the guiding grooves of the segmental or supplementary frame or arc." (Fol. 89.)

That the difference above stated is substantial and INHERENT in the machine. See Mr. Peck's answer to question 15, wherein he says: "I returned the specifi-86 "cations for restrictions and limitations of the alleged "scope of the invention as set forth therein. * * "* * a part of the description alleging that the machine

"was capable of operation as a harvester, and that it
"was within the scope of the invention TO LEAVE
"OUT ONE OF THE GEARING WHEELS WAS ALSO REJECTED
"—'finger bar' was also rejected by the decision of the
"Office. That part of the description which conveyed
"by implication the idea that a single main wheel, a
"single arm or supplementary frame, and a single arc
"for guiding the supplementary frame, were alone 87
"capable of operating the machine, was rejected and
"canceled as new matter, involving a different inven-
'tion from that embraced in the original record of the
"patent." (Fol. 90.)

And see the office letter of April 19th, 1860, which will be found as part of defendant's exhibit No. 2, in which it is stated as follows: "In other words, the title and description cannot be enlarged or changed to involve other machines, but must be strictly limited to the construction as found in the original record." p. 88.

If the construction of this patent contended for by the Defendants shall be adopted, then this decision of 88
the Office will be enforced, and the condition upon which the patent was granted will be complied with. But if the construction contended for by the Plaintiff shall be adopted by the Court, then will the clover harvester be expanded into a reaper of grain and a mower of grass, a combination of a box with two carrying wheels, two arms or supplementary frames, and two retaining ares, and all absolutely essential to the practical operation of the machine, will be restricted to the one side of the box, to the one carrying wheel, and to the one retaining are.

The restrictive words in the claim, to wit, "substan- 89
tially as and for the purposes herein set forth, will be totally disregarded and held for naught.

NINTH.

The defendant has not infringed either of the claims contained in Re-issue No. 985.

As this patent is for combinations exclusively, we will assume the law to be as laid down in Prouty vs. Ruggles, (1 Story 571), and in the same case by the Supreme Court as reported in 16 Peters, 341, to wit, that 90
to constitute an infringement of a combination, *all* the elements of the combination must be used.

"I do find in machine No. 3,099, a supplementary "frame, differing in form and some of its features from "the arm or supplementary frame described in said re-"issued patent. The difference consists in its structure, "by which it serves as a guard of the gearing, namely, "that on the main wheel and the small pinion with which "it meshes, and in its capacity to govern the operation
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tially as and for the purposes herein set forth, will be totally disregarded and held for naught.

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The defendant has not infringed either of the claims contained in Re-issue No. 985.

As this patent is for combinations exclusively, we will assume the law to be as laid down in Prouty vs. Ruggles, (1 Story 571), and in the same case by the Su- 90
preme Court as reported in 16 Peters, 341, to wit, that to constitute an infringement of a combination, *all* the elements of the combination must be used.

And as laid down by Justice McLean, in Brooks vs. Bicknell, (3 McLean, 458, 454), that there is no "infringement of a combination machine unless *every* part is used." And see Vance vs. Campbell. 1 Black 427. Eames vs. Godfrey. 1 Wallace 78.

I. In regard to the combination of the first claim in this patent, Defendant's machine does not contain the whole of that combination.

91 That combination is stated in the claim as follows:

"What is claimed as the invention of the said Thomas S. Steadman, and is desired to be secured by Letters Patent, is—

"The main frame or box 'A,' which carries the pinion which drives the cutters in combination with the arm or supplementary frame 'J,' provided with axle *T* and *gearing* substantially as described for the purposes specified."

The first witness called by plaintiff, to prove infringement of this patent was the expert, J. Boyd Elliott, who
92 was asked to state whether you find embodied in said machine (defendant's machine), the improvement described and specified in said re-issue No. 985, and if yea, give your reasons for your opinion, (ques. 5). (Fol. 43.)

It will be perceived that the counsel, in asking this question, ignores the fact that two improvements are claimed by this patent, and in the question both are treated as but one.

The witness answers: I have examined said machine, and do find therein the combination of a main frame carrying the pinion which drives the cutters, and the supplementary frame provided with an axle carrying the
93 master wheel of the machine. All so arranged and the master wheel so connected with the main frame can vibrate from and around the pinion shaft, as set forth in aforementioned re-issue No. 985. (Fol. 43.)

Does this answer prove that Plaintiff's first combination is embraced in Defendant's machine?

We submit that it does not.

One element in that combination is "the gearing," or perhaps more accurately speaking, "the main wheel and gearing."

Now this gearing is entirely left out by the witness in his answer, and hence the answer does not prove the
94 infringement of this claim.

To remedy this omission, counsel for plaintiff asked the witness the following question (10). (Fol. 45.)

How far, if at all, does the toothed rim upon the arms of the master wheel correspond to the gearing described in said re-issues 985 and 986?

It will be observed that in this question, the counsel not only includes both the claims of No. 985, but includes 986 also.

Now when it is observed that the claim in 986 omits all mention of gearing of any description, the object of including that re-issue in the question is not perceived. 95

But the witness answers: "In principle they are the same. (4) That is to say the 'toothed rim' upon the arms of Defendant's driving wheel, is the same in principle with the gearing described in No. 985 and 986."

Let us examine this matter a little. In the specification to No. 985, it is stated as follows: "And said arm (J) is furnished with a projecting stud (T), which constitutes the axle of the master wheel (B), and with a stud (Y) for the intermediate gear (M), which meshes on one side with the main driving gear (D), and in the opposite side into the pinion (S), on the end of the shaft (C), which drives the cutting apparatus." (Fol. 35.) 96

In the same specification it is afterwards stated that "the gear (M) may be taken off of its shaft or stud when desired, when the machine can run along without driving the cutting apparatus." (Fol. 36.) Thus showing that this intermediate gear (M) is absolutely essential when the machine is in operation, and the cutting apparatus being driven. In the specification to No. 986, this intermediate wheel is marked L in the drawings, and in regard to it we have the following statement, to wit: "This intermediate wheel gears with the master wheel gear M, and the pinion R, for driving the cutters, and also giving them the right motion, and is placed loosely on its shaft (A), that it may readily be removed when not desired for driving the cutters, as is the case when driving the machine to and from the barn to unload it." (Fol. 40.) 97

And yet the witness boldly declares under oath, that the "toothed rim" upon the arms of Defendant's machine, is the same "in principle" with this gearing, *including this intermediate wheel.*

By the phrase "same in principle," I suppose the witness intended to be understood to say that they possessed the same powers or functions. In other words, the witness entirely ignores this intermediate gear (M), or 98

treats it as being a dead part in plaintiff's machine, and yet he must have read that part of the specification above quoted, which shows that when that is removed and becomes a "dead part," the machine can only run along without driving the cutting apparatus.

And he must also have known, from an examination of a model of Plaintiff's machine, that the function of that intermediate gear was to give the pinion a motion
99 reverse to that which is called by plaintiff "the main driving gear," and such is its only function as described in Steadman's specification, wherein he says:

"The wheel (P) and pinion (O) are connected by the intermediate cog wheel (R), which is inserted in order to give the cutters a backward motion as they pass over the comb." (Fol. 121.) Steadman's intermediate cog wheel (R) is Plaintiff's intermediate wheel (M), and the witness also knew that Defendant's "toothed rim" possessed no such function, nor was there any other gearing connected therewith which did.

Hence we submit that the answer was not true in
100 point of fact. See also testimony of plaintiff's witness Clough in answer to question 30th. (Fol. 57.)

This witness was afterwards re-examined by plaintiff, but his attention was NOT again called to this subject by either party.

Plaintiff then called as an expert witness, William Clough.

And this expert, in answer to substantially the same question (9), answered as follows:

"In this model (referring to the model of defendants' machine) I find a main driving wheel carried by a frame or arm which is pivoted to and vibrates upon the pinion
101 shaft supported by the main frame, permitting the frame of the machine to be raised and lowered relatively to the main driving wheel in substantially the same manner as in patent No. 985, preserving in any position an appropiate connection between the main driving *gear wheel* and the pinion to which it communicates motion, as in the patent No. 985." (Fol. 48)

It is evident that the witness in this answer has reference to the DESCRIPTION contained in the specification, without any reference whatever to the claims, as his answer does not embrace all the parts of the machine named in the combination claimed, but entirely ignores
102 the *gearing* which forms a part of EACH of the claims in this patent, and what he says about the "arm which

is pivoted to and vibrates upon the pinion shaft supported by the main frame, permitting the frame of the machine to be raised and lowered relatively to the main driving wheel in substantially the same manner as in the patent No. 985," has nothing whatever to do with the first claim in this patent, as nothing of that kind is mentioned therein.

On his cross examination, this witness shows that he well understood what the term "GEARING" as used in 103
this claim included, and that it did include this intermediate gear wheel, (M,) and the answer also shows that he understood the *junction* of that intermediate gear wheel, for he says: "The GEARING carried by the arm (I,) in this case, of course includes this intermediate wheel designated letter (M,) although it is not properly driving gearing." (Fol. 57) And he had before said, in speaking of this same intermediate wheel, "the function of which is to reverse the motion of the pinion," and without such reversed motion any one will perceive the machine would be an abortion, for the clover heads, 104
instead of being thrown TOWARDS the box, would be thrown towards the standing grass.

As this witness did not show any infringement by defendants' machine of either of the CLAIMS specified in No. 985, he was not cross-examined in regard thereto.

Plaintiff called no other witness upon the subject. Defendant then called Mr. Peck as an expert.

Being asked whether the main frame of defendants' machine was substantially different from the main frame or box (A) of plaintiffs' machine (Ques. 5,) he answered that it did differ substantially; that "the difference consists in the construction and the function which they 105
are capable of performing, the one being a mere skeleton frame arranged between the driving wheel and cutting apparatus, for the purpose of connecting them and carrying the principal part of the gearing, the other being a wooden box arranged between two large wheels with a comb of teeth fastened to its front end for the purpose of gathering clover and grass seed, which is deposited in the box when the machine is in operation. They are incapable of successfully performing the same functions in the field, being only adapted to different kinds of work." Fol. 85.

This witness was then requested to compare the arm 106
or supplementary frame of defendants' machine with the arm or supplementary frame in plaintiffs' machine,

(Ques. 6.) In answer he says it differs in form and in some of its features, particularly "in its capacity to govern the operation of the machine in its vertical vibrations, which allow the finger bar to follow the undulations of the ground. These peculiarities of construction are not found in that re-issued patent; the machine which IT describes requiring TWO supplementary frames, and these are both essential to its operation." Fol. 85.

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And we may add here that when plaintiff undertook to restrict his description to but one, he was compelled to abandon the attempt. See this witness' answer to question 15, wherein in speaking of the alteration which the plaintiff had been compelled to make in his specification, he says, "a part of one of the specifications alleging THAT ONE OF THE ARMS OR SUPPLEMENTARY FRAMES FORM NO PART OF THE APPLICATION, WAS REJECTED AND CANCELLED." Fol. 90.

This witness was then asked to compare defendants' "main wheel and gearing" with plaintiffs' "main wheel and gearing," and to state the difference. (Ques. 7.) Fol. 86.

108

In answer, he says, the main wheels differ, the defendants' "being furnished with a large gearing wheel or rim upon its face."

The gearing also differs as a system of gearing, plaintiffs' "being only capable of giving a revolving movement to a shaft carrying the cutters, and that movement is necessarily reversed in direction to give the proper direction to the cutters, which is done by interposing a gear wheel and cutter pinion gear, which intermediate gear is removeable for the purpose of stopping the operation of the cutters, or when the machine is taken from the field to be unloaded." Fol. 86.

109

In Defendants' machine, he says: "*These devices are not employed*, but the operation of its gearing converts the rotary into a reciprocating, horizontal motion. The one system of gearing is not the equivalent of the other for the proposed objects of the machine." (Fol. 86.) Nor is this evidence attempted to be answered or contradicted.

This witness was then asked to compare "the arm or supplementary frame master wheel and gearing" in defendants' machine with those parts called the same in plaintiffs' machine, and to state the difference. (Q. 8.)

110

In answer, he says: "I do find a substantial dif-

ference." It "consists in the construction and arrangement of the supplementary frame, and the systems of gearing as explained in my answer to the 6th and 7th questions, whereby different effects are produced, as already stated."

This witness was then asked to compare the manner in which the supplementary frames were connected in the two machines. (Ques. 9.)

In answer, he says: "The arm or supplementary 111
frame in re-issue 985. is connected DIRECTLY *to the pinion shaft*, which rests upon the main frame. It is provided at its front end with a hole just sufficient in size to permit the end of the cutter to pass freely through it, *and by it* (*said shaft*) *the supplementary frame is dragged with its gearing and main wheel*, as the machine is drawn upon the ground.

The supplementary frame of machine 3,099, (defts' machine,) is connected to the main frame by means of a cylindrical box which is connected to the main frame, and through which the pinion shaft passes; thereby relieving the pinion shaft from the strain and friction to 112
which it is subject in the machine described in the re-issue No. 985." (Fol. 87.)

This evidence has not been attempted to be contradicted. This difference is plain and palpable upon the two models.

Defendants then called as an expert witness, Edward S. Renwick. Being asked if the combination as recited in the first claim in No. 985 was shown in the model of defendants' machine. (Ques. 12.)

A. "In my opinion the combination recited in said first claim is *not* embodied in defendants' model No. 113
2." (Defts' machine.)

His reasons were: "That the said combination is composed, among other things, of certain "gearing," such as is described in the descriptive portion of the specification, and on examining this portion I find it is essential to the operation of the machine that the pinion carried by the box, and whose axis is the axis on which the supplementary frame or arm turns, should revolve in the same direction as the main wheel, and that in order to produce this effect the intermediate wheel (M) (forming part of the gearing,) is necessary. I do not find such gearing as this in the defendants' model 2, or 114
any equivalent for it."

"I also find it stated in the descriptive part of the

specification 'that the axis of the gears, except that of the pinion (S) are arranged on a single piece (J), and that the latter, turning only on the pinon shaft (c) may be said to virtually hold in itself all the gearing.' I understand from this that the piece (J) (which is the supplementary arm or frame,) is to be so formed and arranged that it first turns on the pinion shaft which carries the crank which drives the cutters—and second,
115 that it will hold all the gearing that intervenes between the master wheel and the pinion whose shaft carries the crank of the cutter, *and I find neither of these* peculiarities in defendant's model 2."

We therefore confidently submit, that defendants' machine does not infringe the combination *first claimed* in re-issue 985. Fol. 162.

II. In regard to the combination of the *second* claim in this patent (985) defendants' machine does not embrace or embody the whole of that combination.

That combination embraces the following elements:

1. The arm or supplementary frame.
116 2. The master wheel, and
3. *The gearing.*

"When said arm or supplementary frame is so connected with the main frame as to vibrate from and around the pinion shaft substantially as shown and described for the purpose set forth."

In regard to the "*gearing*," this combination is precisely like the *first* claim, and the same testimony applies to it.

In regard to "*the arm or supplementary frame*," it is the same in this claim as in the first, and the same testimony applies to it.

117 See Mr. Renwick's ans. to ques. 13. Fol. 162.
See Mr. Clough's ans. to ques. 30. Fol. 57.
See Mr. Clough's ans. to ques. 9.

Where, in describing plaintiffs' combination, he ig-"nores the gearing" altogether. Fol. 48.

See also Mr. Peck's ans. to ques. 5 to 9. Fol. 85, 86.

As this testimony has been already quoted and commented on in this brief, we refer to that without repeating it.

We therefore submit that in regard to re-issue 985, the defendant has not infringed either of the *improvements* therein patented, and as to that re-issue the bill
118 should be dismissed with costs.

LASTLY.

Were there any doubt upon the question of defendants' infringing either of the claims made in these Re-issues, there can be none in regard to the fact that he did not infringe any claim made in the original patent, and 119
therefore, if his machine does infringe either of the claims made in the Re-issues, that Re-issue is void.

As we understand the decision of the Court in the case of Burr vs. Duryea, (the Hat Body case) this is one of the points decided in that case.

It will not be pretended that the machine sold by the defendant, DID infringe any of the claims Patented to Steadman. They are as follows:

1st. The arrangement of the cutters in combination with the comb operating in the manner, and for the 120
purpose described.

2nd. The rake S, in combination with the Cutters as described. Fol. 123.

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